

Search strategies

10/535,603

8/29/2006

Connecting via Winsock to STN

CASREACT
CAPLUS } no usable hits
closest articles
NOT prior.

Welcome to STN International! Enter x:x

LOGINID:SSPTAMPB1626

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 FEB 27 New STN AnaVist pricing effective March 1, 2006
NEWS 4 APR 04 STN AnaVist \$500 visualization usage credit offered
NEWS 5 MAY 10 CA/CAPLUS enhanced with 1900-1906 U.S. patent records
NEWS 6 MAY 11 KOREAPAT updates resume
NEWS 7 MAY 19 Derwent World Patents Index to be reloaded and enhanced
NEWS 8 MAY 30 IPC 8 Rolled-up Core codes added to CA/CAPLUS and
USPATFULL/USPAT2
NEWS 9 MAY 30 The F-Term thesaurus is now available in CA/CAPLUS
NEWS 10 JUN 02 The first reclassification of IPC codes now complete in
INPADOC
NEWS 11 JUN 26 TULSA/TULSA2 reloaded and enhanced with new search and
and display fields
NEWS 12 JUN 28 Price changes in full-text patent databases EPFULL and PCTFULL
NEWS 13 JUL 11 CHEMSAFE reloaded and enhanced
NEWS 14 JUL 14 FSTA enhanced with Japanese patents
NEWS 15 JUL 19 Coverage of Research Disclosure reinstated in DWPI
NEWS 16 AUG 09 INSPEC enhanced with 1898-1968 archive
NEWS 17 AUG 28 ADISCTI Reloaded and Enhanced

NEWS EXPRESS JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8
NEWS X25 X.25 communication option no longer available

Enter NEWS followed by the item number or name to see news on that
specific topic.

All use of STN is subject to the provisions of the STN Customer
agreement. Please note that this agreement limits use to scientific
research. Use for software development or design or implementation
of commercial gateways or other similar uses is prohibited and may
result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 15:08:49 ON 29 AUG 2006

=> file casreact

COST IN U.S. DOLLARS

SINCE FILE
ENTRY

TOTAL
SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'CASREACT' ENTERED AT 15:09:02 ON 29 AUG 2006

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

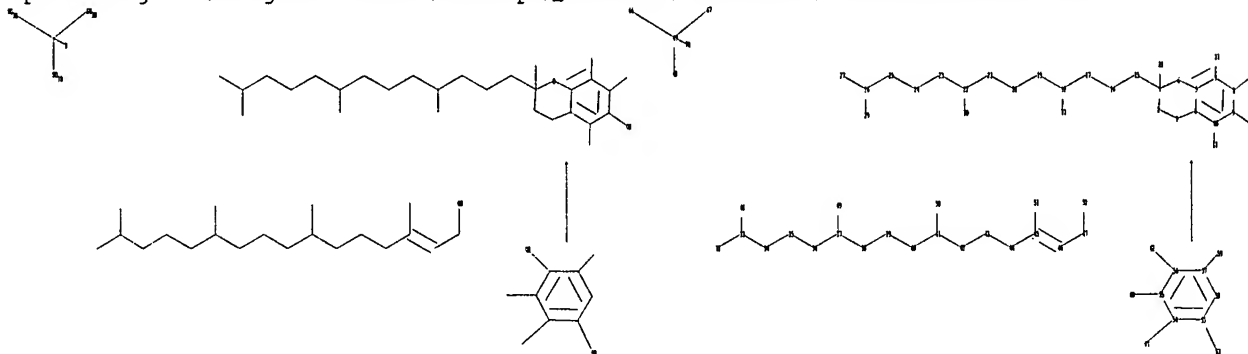
```

*****
*
*      CASREACT now has more than 10 million reactions
*
*****

```

This file contains CAS Registry Numbers for easy and accurate substance identification.

Uploading C:\Program Files\Stnexp\Queries\10535603\10535606narrow.str



11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
59	60	61	62	63	66	67	68	69	70											

1 2 3 4 5 6 7 8 9 10 53 54 55 56 57 58

[illegible]

ring bonds :
 1-6 1-2 2-3 3-4 4-5 4-10 5-6 5-7 7-8 8-9 9-10 53-54 53-58 54-55 55-56
 56-57 57-58
 exact/norm bonds :
 1-6 1-2 2-3 3-4 5-6 9-14 47-52 53-63 56-62
 exact bonds :
 1-15 1-28 7-11 8-12 10-13 15-16 16-17 17-18 18-19 18-31 19-20 20-21
 21-22 22-23 22-30 23-24 24-25 25-26 26-27 26-29 32-33 33-34 33-48 34-35
 35-36 36-37 37-38 37-49 38-39 39-40 40-41 41-42 41-50 42-43 43-44 44-45
 45-46 45-51 46-47 54-61 55-60 57-59 66-69 67-69 68-69 69-70
 normalized bonds :
 4-5 4-10 5-7 7-8 8-9 9-10 53-54 53-58 54-55 55-56 56-57 57-58

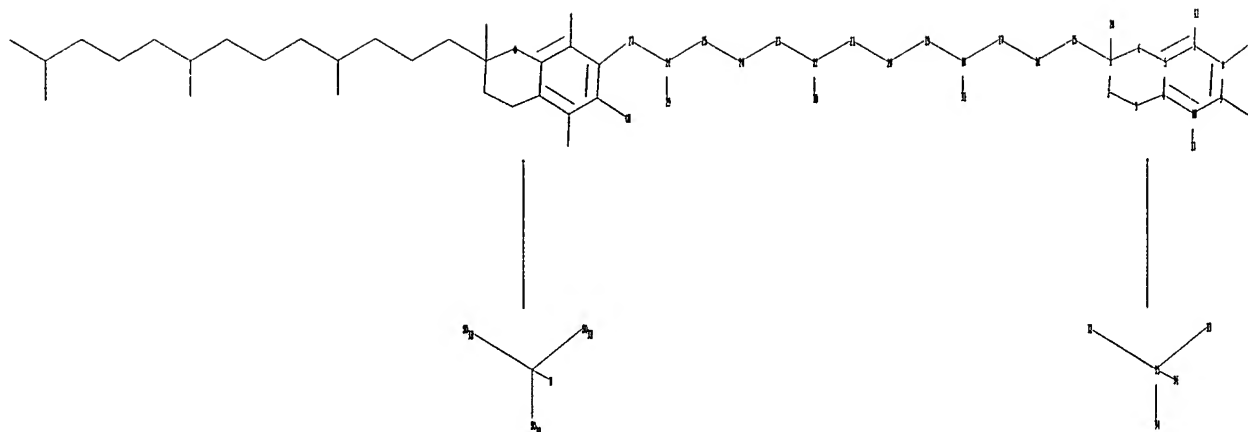
Match level :
 1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS
 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS
 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS
 35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS
 43:CLASS 44:CLASS 45:CLASS 46:CLASS 47:CLASS 48:CLASS 49:CLASS 50:CLASS
 51:CLASS 52:CLASS 53:Atom 54:Atom 55:Atom 56:Atom 57:Atom 58:Atom 59:CLASS
 60:CLASS 61:CLASS 62:CLASS 63:CLASS 66:CLASS 67:CLASS 68:CLASS 69:CLASS
 70:CLASS
 fragments assigned product role:
 containing 1
 fragments assigned reactant/reagent role:
 containing 32
 containing 53
 containing 66
 node mappings:
 9:56

L1 STRUCTURE UPLOADED

=> s l1 ful
 FULL SEARCH INITIATED 15:10:13 FILE 'CASREACT'
 SCREENING COMPLETE - 0 REACTIONS TO VERIFY FROM 0 DOCUMENTS
 100.0% DONE 0 VERIFIED 0 HIT RXNS 0 DOCS
 SEARCH TIME: 00.00.01

L2 0 SEA SSS FUL L1 (0 REACTIONS)

=>
 Uploading C:\Program Files\Stnexp\Queries\10535603\10535606narrow1.str



chain nodes :
 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
 32 33 34 35 36
 ring nodes :
 1 2 3 4 5 6 7 8 9 10
 chain bonds :
 1-15 1-28 7-11 8-12 9-14 10-13 15-16 16-17 17-18 18-19 18-31 19-20
 20-21 21-22 22-23 22-30 23-24 24-25 25-26 26-27 26-29 32-35 33-35 34-35
 35-36
 ring bonds :
 1-6 1-2 2-3 3-4 4-5 4-10 5-6 5-7 7-8 8-9 9-10
 exact/norm bonds :
 1-6 1-2 2-3 3-4 5-6 9-14
 exact bonds :
 1-15 1-28 7-11 8-12 10-13 15-16 16-17 17-18 18-19 18-31 19-20 20-21
 21-22 22-23 22-30 23-24 24-25 25-26 26-27 26-29 32-35 33-35 34-35 35-36
 normalized bonds :
 4-5 4-10 5-7 7-8 8-9 9-10

Match level :
 1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS
 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS
 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS
 35:CLASS 36:CLASS
 fragments assigned product role:
 containing 1
 fragments assigned reactant/reagent role:
 containing 32

L3 STRUCTURE UPLOADED

=> s 13 ful

FULL SEARCH INITIATED 15:11:50 FILE 'CASREACT'

SCREENING COMPLETE - 0 REACTIONS TO VERIFY FROM 0 DOCUMENTS

100.0% DONE 0 VERIFIED 0 HIT RXNS 0 DOCS

SEARCH TIME: 00.00.01

L4 0 SEA SSS FUL L3 (0 REACTIONS)

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

223.36

223.57

FILE 'REGISTRY' ENTERED AT 15:14:29 ON 29 AUG 2006

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2006 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 28 AUG 2006 HIGHEST RN 904961-01-9

DICTIONARY FILE UPDATES: 28 AUG 2006 HIGHEST RN 904961-01-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

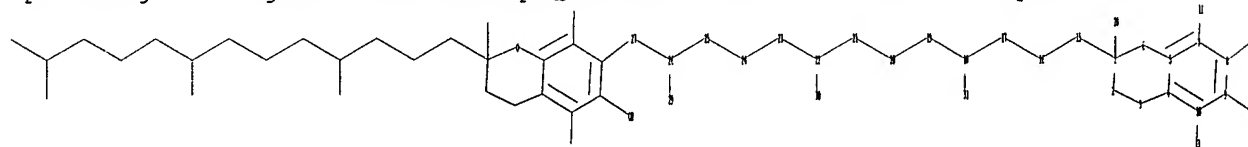
Please note that search-term pricing does apply when
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10535603\10535606tocopherol.str



chain nodes :

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

ring nodes :

1 2 3 4 5 6 7 8 9 10

chain bonds :

1-15 1-28 7-11 8-12 9-14 10-13 15-16 16-17 17-18 18-19 18-31 19-20

20-21 21-22 22-23 22-30 23-24 24-25 25-26 26-27 26-29

ring bonds :

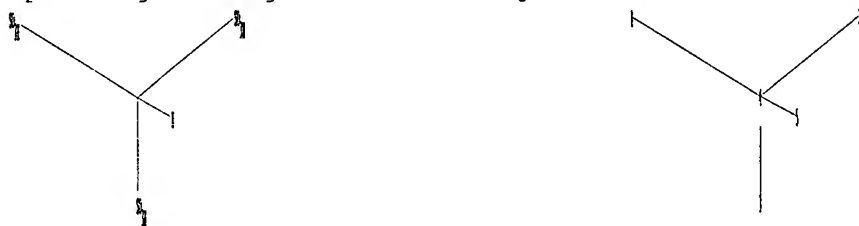
1-6 1-2 2-3 3-4 4-5 4-10 5-6 5-7 7-8 8-9 9-10

exact/norm bonds :
 1-6 1-2 2-3 3-4 5-6 9-14
 exact bonds :
 1-15 1-28 7-11 8-12 10-13 15-16 16-17 17-18 18-19 18-31 19-20 20-21
 21-22 22-23 22-30 23-24 24-25 25-26 26-27 26-29
 normalized bonds :
 4-5 4-10 5-7 7-8 8-9 9-10

Match level :
 1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS
 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS
 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS

L5 STRUCTURE UPLOADED

=>
 Uploading C:\Program Files\Stnexp\Queries\10535603\10535606methanetrissulphonate.str.



chain nodes :
 1 2 3 4 5
 chain bonds :
 1-4 2-4 3-4 4-5
 exact bonds :
 1-4 2-4 3-4 4-5

Match level :
 1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS

L6 STRUCTURE UPLOADED

=> file caplus
 COST IN U.S. DOLLARS
 FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
0.44	224.01

FILE 'CAPLUS' ENTERED AT 15:15:16 ON 29 AUG 2006
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching

databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 29 Aug 2006 VOL 145 ISS 10
FILE LAST UPDATED: 28 Aug 2006 (20060828/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

=> s 15 and 16

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...

Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 15:15:20 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 147 TO ITERATE

100.0% PROCESSED 147 ITERATIONS 25 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 2213 TO 3667
PROJECTED ANSWERS: 200 TO 800

L7 25 SEA SSS SAM L5

L8 65 L7

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...

Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 15:15:21 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 6 TO ITERATE

100.0% PROCESSED 6 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 6 TO 266
PROJECTED ANSWERS: 0 TO 0

L9 0 SEA SSS SAM L6

L10 0 L9

L11 0 L8 AND L10

=> s 15

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...

Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 15:16:54 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 147 TO ITERATE

100.0% PROCESSED 147 ITERATIONS 25 ANSWERS
SEARCH TIME: 00.00.03

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 2213 TO 3667
PROJECTED ANSWERS: 200 TO 800

L12 25 SEA SSS SAM L5

L13 65 L12

=> s 16

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...

Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 15:17:11 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 6 TO ITERATE

100.0% PROCESSED 6 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 6 TO 266
PROJECTED ANSWERS: 0 TO 0

L14 0 SEA SSS SAM L6

L15 0 L14

=> file reg

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
1.84	230.37

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 15:19:17 ON 29 AUG 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file

provided by InfoChem.

STRUCTURE FILE UPDATES: 28 AUG 2006 HIGHEST RN 904961-01-9

DICTIONARY FILE UPDATES: 28 AUG 2006 HIGHEST RN 904961-01-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

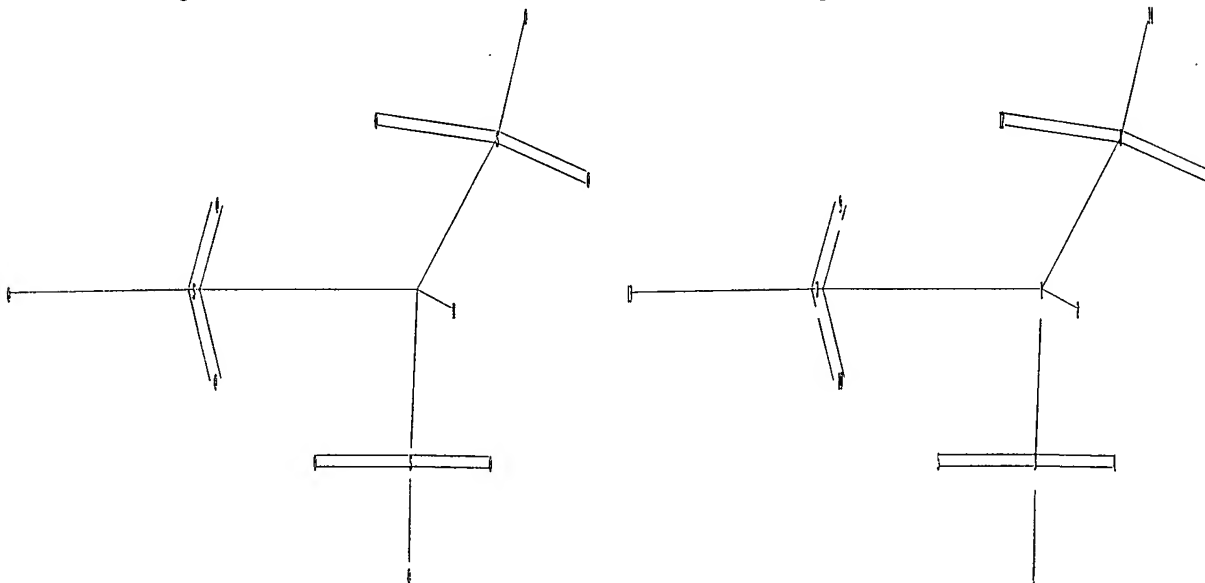
REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=>

Uploading C:\Program

Files\Stnexp\Queries\10535603\10535606methanetrissulphonatewithoutH.str



chain nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14

chain bonds :

1-2 1-3 1-7 1-8 3-4 3-5 3-6 7-9 7-10 7-13 8-11 8-12 8-14

exact/norm bonds :

1-3 1-7 1-8 3-4 3-5 3-6 7-9 7-10 7-13 8-11 8-12 8-14

exact bonds :

1-2

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS

10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS

L16 STRUCTURE UPLOADED

=> s l16

SAMPLE SEARCH INITIATED 15:19:31 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 1 TO ITERATE

100.0% PROCESSED 1 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 1 TO 80
PROJECTED ANSWERS: 0 TO 0

L17 0 SEA SSS SAM L16

=> s l16 ful
FULL SEARCH INITIATED 15:19:58 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 53 TO ITERATE

100.0% PROCESSED 53 ITERATIONS 15 ANSWERS
SEARCH TIME: 00.00.01

L18 15 SEA SSS FUL L16

=> d ibib hitstr 1-15
'IBIB' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'
'HITSTR' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:

Substance information can be displayed by requesting individual fields or predefined formats. The predefined substance formats are: (RN = CAS Registry Number)

REG - RN
SAM - Index Name, MF, and structure - no RN
FIDE - All substance data, except sequence data
IDE - FIDE, but only 50 names
SQIDE - IDE, plus sequence data
SQIDE3 - Same as SQIDE, but 3-letter amino acid codes are used
SQD - Protein sequence data, includes RN
SQD3 - Same as SQD, but 3-letter amino acid codes are used
SQN - Protein sequence name information, includes RN

CALC - Table of calculated properties
EPROP - Table of experimental properties
PROP - EPROP and CALC

Any CA File format may be combined with any substance format to obtain CA references citing the substance. The substance formats must be cited first. The CA File predefined formats are:

ABS -- Abstract
APPS -- Application and Priority Information
BIB -- CA Accession Number, plus Bibliographic Data
CAN -- CA Accession Number
CBIB -- CA Accession Number, plus Bibliographic Data (compressed)
IND -- Index Data
IPC -- International Patent Classification
PATS -- PI, SO
STD -- BIB, IPC, and NCL

IABS -- ABS, indented, with text labels
IBIB -- BIB, indented, with text labels
ISTD -- STD format, indented

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when it is available.

The MAX format is the same as ALL.

The IALL format is the same as ALL with BIB ABS and IND indented, with text labels.

For additional information, please consult the following help messages:

HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
ENTER DISPLAY FORMAT (IDE):end

=> s l16 ful
FULL SEARCH INITIATED 15:20:22 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 53 TO ITERATE

100.0% PROCESSED 53 ITERATIONS 15 ANSWERS
SEARCH TIME: 00.00.01

L19 15 SEA SSS FUL L16

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	333.88	564.25

FILE 'CAPLUS' ENTERED AT 15:20:25 ON 29 AUG 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 29 Aug 2006 VOL 145 ISS 10
FILE LAST UPDATED: 28 Aug 2006 (20060828/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

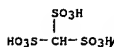
=> s l19
L20 37 L19

=> d ibib hitstr abs 1-37

L20 ANSWER 1 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:426557 CAPLUS
DOCUMENT NUMBER: 142:463900
TITLE: Acylation process for the preparation of
2,3,5-trimethylhydroquinone diacylates in the
presence
of methanetrissulfonic acid catalyst
INVENTOR(S): Aquino, Fabrice; Bonrath, Werner; Pace, Francesco
PATENT ASSIGNEE(S): DSM IP Assets B.V., Neth.
SOURCE: PCT Int. Appl., 10 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005044775	A1	20050519	WO 2004-EP12058	20041026
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1680392	A1	20060719	EP 2004-790843	20041026
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
PRIORITY APPLN. INFO.: EP 2003-25513 A 20031107				
WO 2004-EP12058 W 20041026				

OTHER SOURCE(S): CASREACT 142:463900
IT 54322-33-7, Methanetrissulfonic acid
RL: CAT (Catalyst use); USES (Uses)
(acylation process for preparation of 2,3,5-trimethylhydroquinone diacylates in presence of methanetrissulfonic acid catalyst)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



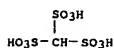
AB 2,3,5-trimethyl-1,4-hydroquinone diacylates (e.g., 2,3,5-trimethyl-1,4-benzquinone diacetate), useful as intermediates in the preparation of α-tocopherol (no data), are obtained in high yield and selectivity by reacting 2,3,5-trimethyl-1,4-benzquinone with an acylating agent (e.g., acetic anhydride) in the presence of catalytic quantities of methanetrissulfonic acid.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

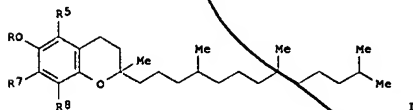
L20 ANSWER 2 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:965239 CAPLUS
DOCUMENT NUMBER: 141:395687
TITLE: Process for the manufacture of tocyl and tocopheryl acylates
INVENTOR(S): Bonrath, Werner; Haas, Alois; Hoppmann, Simone; Netscher, Thomas; Pauling, Horst
PATENT ASSIGNEE(S): DSM IP Assets B.V., Neth.
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004096790	A1	20041111	WO 2004-EP4144	20040419
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.: EP 2003-9522 A 20030428				

OTHER SOURCE(S): CASREACT 141:395687; MARPAT 141:395687
IT 54322-33-7, Methanetrissulfonic acid
RL: CAT (Catalyst use); USES (Uses)
(process for manufacture of tocyl and tocopherol acylates using perfluoroalkylsulfonate catalysts)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



GI



AB A process for the manufacture of tocyl acylate I [R = acyl; R1 = R2 = R3 = H]

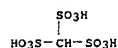
L20 ANSWER 1 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)

L20 ANSWER 2 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
or a tocopheryl acylate I [R = acyl; R5 = R7 = R8 = Me, R5 = H, R7 = R8 = Me, etc.] comprised reacting a corresponding tocyl or tocopherol with an acylating agent in the presence of a catalyst of the general formula HCR1R2R3 [wherein R1, R2 and R3 each signify the sulfo group, or R1, R2 and R3 each signify a perfluoroalkylsulfonyl group whereby at least two of R1, R2 and R3 are identical such perfluoroalkyl-sulfonyl groups, or R1 signifies the pentafluorophenyl-sulfonyl group and R2 and R3 each signify an identical perfluoroalkylsulfonyl group]. The main com. form of vitamin E, being (all-rac)-α-tocopherol acetate I [R = acetyl; R5 = R7 = R8 = Me], can be manuf. by acylation of (all-rac)-α-tocopherol according to this process.
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L20 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 2004:823008 CAPLUS
DOCUMENT NUMBER: 141:334863
TITLE: Crosslinked polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type electrolytes for lithium secondary batteries
INVENTOR(S): Barrandon, Georges; George, Catherine; Vergelati, Carol; Giraud, Yves
PATENT ASSIGNEE(S): Rhodia Chimie, Fr.
SOURCE: Fr. Demande, 25 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2853321	A1	20041008	FR 2003-4153	20030403
FR 2853321	B1	20050506		
WO 2004090037	A1	20041021	WO 2004-FR708	20040323
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1608705	A1	20051228	EP 2004-742318	20040323
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
CN 1788054	A	20060614	CN 2004-80013072	20040323
PRIORITY APPL. INFO.:			FR 2003-4153	A 20030403
			WO 2004-FR708	W 20040323

OTHER SOURCE(S): MARPAT 141:334863
IT 54322-33-7DP, Methanetrisulfonic acid, derivs., salts
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (battery electrolytes containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type electrolytes for lithium secondary batteries)
RN 54322-33-7 CAPLUS
CN Methanetrisulfonic acid (7CI, 9CI) (CA INDEX NAME)

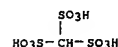


AB Crosslinked polymeric electrolytes for lithium secondary batteries consist of: (1) a first poly(hydrogen organic siloxane) with ≥ 2 Si-H bonds per mol., (2) a second polysiloxane containing ≥ 2 Si-OH bonds per mol., (3)

L20 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 2004:823007 CAPLUS
DOCUMENT NUMBER: 141:334862
TITLE: Photochemical crosslinked epoxy-polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type electrolytes for lithium secondary batteries
INVENTOR(S): Gambut, Lucile; Vergelati, Carol; Sanchez, Jean Yves
PATENT ASSIGNEE(S): Alloin, Fannie
SOURCE: Rhodia Chimie, Fr.; Rhone Poulenc Chimie
Fr. Demande, 30 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2853320	A1	20041008	FR 2003-4150	20030403
FR 2853320	B1	20050506		
WO 2004091033	A2	20041021	WO 2004-FR707	20040323
WO 2004091033	A3	20050714		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1609205	A2	20051228	EP 2004-742317	20040323
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
CN 1784806	A	20060607	CN 2004-80012563	20040323
PRIORITY APPL. INFO.:			FR 2003-4150	A 20030403
			WO 2004-FR707	W 20040323

OTHER SOURCE(S): MARPAT 141:334862
IT 54322-33-7DP, Methanetrisulfonic acid, derivs., salts
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (battery electrolytes containing; photochem. crosslinked epoxy-polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type electrolytes for lithium secondary batteries)
RN 54322-33-7 CAPLUS
CN Methanetrisulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB Crosslinked polymeric electrolytes for lithium secondary batteries are prepared from a polyorganosiloxane grafted with polyoxyalkylene and epoxy functions, followed by radiochem. or photochem. (e.g., UV-induced)

L20 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN (Continued)
a dehydrogenation-condensation catalyst, and (4) ≥ 1 salt electrolyte. The polyoxyalkylene ether functions are derived from polyoxyethylene, polyoxypropylene, or their mono-Me ethers. The dehydrogenation-condensation catalysts are typically metal complexes based on Pt, B, Rh, Pd, Sn, or Ir, preferably Karstedt (hydrosilylation) catalysts of formula IrCl(CO)(PPh₃)₂. Suitable salt electrolytes include LiClO₄, LiBF₄, LiAsF₆, CF₃SO₃Li, LiN(CF₃SO₂)₂, and LiN(C₂F₅SO₂)₂ in a non-aq. electrolyte solvent, as well as other cations (e.g., transition metal cations, selected from Mn, Fe, Co, Ni, Cu, Zn, Ca, and Ag). Anions include ammonium, amidinium, guanidinium cations, halides, ClO₄⁻, SCN⁻, BF₄⁻, NO₃⁻, AsF₆⁻, PF₆⁻, RSO₃⁻ (R = stearyl, CF₃, octyl, dodecylphenyl, and Cl-6-perfluoroalkyl and -perfluoroaryl), (R₅SO₂)₂N⁻, and (R₄SO₂)(R₅SO₂)C⁻ (R₄-6 = Cl-6-perfluoroalkyl and -perfluoroaryl).

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L20 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN (Continued)
crosslinking in the presence of a photosensitizer. The crosslinked epoxy-polyoxyalkylene-polysiloxanes have the general formula R₁R₂R₃R₄SiO_{4-x}(4-x)⁻ z/2, in which R₁-R₄ are Cl-12-alkyl, C₅-10-cycloalkyl, C₆-18-aryl, aralkyl, or -OR₄ (R₄ = H or Cl-15-alkyl; and x + y + z = 1-3). The product polysiloxanes (typically prep. from Si-H bond-contg. polysiloxanes by hydrosilylation grafting with allyl-terminated polyoxyalkylenes and epoxides) are then combined with org. salts to form the battery electrolytes. Suitable salt electrolytes include LiClO₄, LiBF₄, LiAsF₆, CF₃SO₃Li, LiN(CF₃SO₂)₂, and LiN(C₂F₅SO₂)₂, other cations (e.g., transition metal cations; ammonium, amidinium, and guanidinium salts; org. sulfonates, imidodisulfonates, methanetrisulfonates, organoboron complex salts, ferricenium salts, and other onium salts (esp. iodonium and sulfonium compds.)).

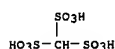
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L20 ANSWER 5 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 2004:453200 CAPLUS
 DOCUMENT NUMBER: 141:23750
 TITLE: Manufacture of α -tocopherol from the reaction of trimethylhydroquinone with isophytol or phytol in the presence of methane trisulfonate
 INVENTOR(S): Bonrath, Werner; Hoppmann, Simone Haas, Alois; Netscher, Thomas; Pauling, Horst
 PATENT ASSIGNEE(S): DSM IP Assets B.V., Neth.
 SOURCE: PCT Int. Appl., 13 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

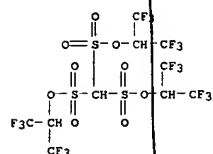
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004046127	A1	20040603	WO 2003-EP10837	20030930
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SV, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2003270295	A1	20040615	AU 2003-270295	20030930
CN 1701065	A	20051123	CN 2003-825314	20030930
US 2006020139	A1	20060126	US 2005-535603	20050519
PRIORITY APPLN. INFO.:			EP 2402-25990	A 20021121
			WO 2003-EP10837	W 20030930

OTHER SOURCE(S): CASREACT 141:23750
 IT 54322-33-7, Methanetrissulfonic acid
 RL: CAT (Catalyst use); USES (Uses)
 (manufacture of α -tocopherol from the reaction of trimethylhydroquinone with isophytol or phytol in the presence of methane trisulfonate)
 RN 54322-33-7 CAPLUS
 CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB (all-rac)- α -tocopherol is prepared by the acid-catalyzed reaction of trimethylhydroquinone with isophytol or phytol in the presence of methane trisulfonate as the catalyst in an organic solvent.

L20 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN (Continued)



AB The invention concerns a method for preparing high yields of polyisocyanates containing urethane groups by cyclodimerization of isocyanate functions borne by initial monomer isocyanates. The invention is characterized in that it comprises steps which consist in: (a) providing a reaction medium comprising initial monomer isocyanates, optionally in the presence of a solvent; (b) adding to said reaction mixture a (cyclo)dimerization catalyst comprising a compound of the family of super acids (such as $(\text{CF}_3\text{SO}_2)_2\text{NH}$); (c) heating the reaction medium to a temperature ranging between 0°C and 300°C , advantageously between 20°C and 200°C until the desired rate of transformation is obtained; (d) optionally, inactivating or eliminating the reaction catalyst; and (e) optionally, eliminating the unreacted monomer.
 REFERENCE COUNT: 7
 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

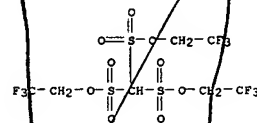
L20 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 2002:391791 CAPLUS
 DOCUMENT NUMBER: 136:386879
 TITLE: Method for catalytic dimerization of isocyanates
 INVENTOR(S): Bernard, Jean-Marie
 PATENT ASSIGNEE(S): Rhodia Chimie, Fr.
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002040567	A1	20020523	WO 2001-FR3648	20011120
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SV, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
FR 2816939	A1	20020524	FR 2000-14966	20001120
FR 2816939	B1	20030829		
AU 2002020807	A5	20020527	AU 2002-20807	20011120
EP 1352006	A1	20031015	EP 2001-996571	20011120
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
BR 2001015453	A	20040106	BR 2001-15453	20011120
US 2004014970	A1	20040122	US 2003-432050	20030519
PRIORITY APPLN. INFO.:			FR 2000-14966	A 20001120
			WO 2001-FR3648	W 20011120

OTHER SOURCE(S): MARPAT 136:386879
 IT 426819-04-7, Tris[bis(trifluoromethyl)methoxysulfonyl]methane
 RL: CAT (Catalyst use); USES (Uses)
 (dimerization of isocyanates in presence of super acids for manufacture of urethane-containing polyisocyanates)
 RN 426819-04-7 CAPLUS
 CN Methanetrissulfonic acid, tris(2,2,2-trifluoro-1-(trifluoromethyl)ethyl) ester (9CI) (CA INDEX NAME)

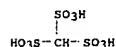
L20 ANSWER 7 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 1997:16099 CAPLUS
 DOCUMENT NUMBER: 128:47975
 TITLE: Preparation of lithium tris(2,2,2-trifluoroethoxy)sulfonylmethane and tris(2,2,2-trifluoroethoxy)sulfonylmethane
 INVENTOR(S): Yagupolskiy, Yuri Lubovich; Savina, Tatyana Ivanovna; Khirig, Natalya Bradrenova
 PATENT ASSIGNEE(S): Institute of Organic Chemistry of National Academy of Sciences, Ukraine, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09301981	A2	19971125	JP 1996-111654	19960502
PRIORITY APPLN. INFO.:			JP 1996-111654	19960502
IT 199875-26-8P, Tris(2,2,2-trifluoroethoxy)sulfonylmethane				
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)				
(preparation of lithium tris(2,2,2-trifluoroethoxy)sulfonylmethane as battery electrolyte from tris(2,2,2-trifluoroethyl)sulfonylmethane)				
RN 199875-26-8 CAPLUS				
CN Methanetrissulfonic acid, tris(2,2,2-trifluoroethyl) ester (9CI) (CA INDEX NAME)				

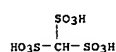


AB $(\text{F}_3\text{CCCH}_2\text{OSO}_2)_3\text{CLi}$ (I), useful as an electrolyte for Li batteries, storage batteries, etc., is prepared by treatment of $(\text{F}_3\text{CCCH}_2\text{OSO}_2)_3\text{CH}$ (II) with Li salt. II is prepared by reaction of $(\text{F}_3\text{CCCH}_2\text{O})_3\text{CH}$ (III) with $\text{TMSCl}_2\text{CF}_3$ (IV). A mixture of III and IV was boiled at $90-92^\circ$ for 6.5 h to give 50% II. II was treated with Li_2CO_3 in Et₂O under stirring for 0.5 h to give 100% I. Molar conductance λ of I was larger than that of $\text{F}_3\text{CCSO}_2\text{Li}$.

L20 ANSWER 8 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1997:69364 CAPLUS
 DOCUMENT NUMBER: 126:211808
 TITLE: Investigations on the acid-strength of alkanepolysulfonic acids
 AUTHOR(S): Jueschke, Ralf; Sartori, Peter
 CORPORATE SOURCE: Fachbereich 6 Anorganische Chem., Gerhard-Mercator Univ., Duisburg, D-47048, Germany
 SOURCE: Zeitschrift fuer Naturforschung, B: Chemical Sciences (1996), 51(12), 1691-1700
 CODEN: ZNBSEN; ISSN: 0932-0776
 PUBLISHER: Verlag der Zeitschrift fuer Naturforschung
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 IT 54322-33-7, Methanetrisulfonic acid
 RL: PRP (Properties)
 (preparation of silyl alkanepolysulfonates and estimation of acidity by correlation with ²⁹Si-NMR shift)
 RN 54322-33-7 CAPLUS
 CN Methanetrisulfonic acid (7CI, 9CI) (CA INDEX NAME)

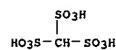


IT 55110-91-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of silyl alkanepolysulfonates and estimation of acidity by correlation with ²⁹Si-NMR shift)
 RN 55110-91-3 CAPLUS
 CN Methanetrisulfonic acid, tripotassium salt (3CI, 9CI) (CA INDEX NAME)

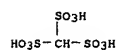


● 3 K
 IT 75533-77-6P 187610-57-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of silyl alkanepolysulfonates and estimation of acidity by correlation with ²⁹Si-NMR shift)
 RN 75533-77-6 CAPLUS
 CN Methanetrisulfonic acid, barium salt (2:3) (9CI) (CA INDEX NAME)

L20 ANSWER 9 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1994:630311 CAPLUS
 DOCUMENT NUMBER: 121:230311
 TITLE: Improvement of the synthesis of the tripotassium methanetrisulfonate monohydrate
 AUTHOR(S): Sartori, Peter; Jueschke, Ralf
 CORPORATE SOURCE: Fachbereich 6 Anorg. Chem., Univ.-CH, Duisburg, Germany
 SOURCE: Journal fuer Praktische Chemie/Chemiker-Zeitung (1994), 336(4), 373-4
 CODEN: JPCCEM; ISSN: 0941-1216
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 121:230311
 IT 54322-33-7, Methanetrisulfonic acid
 RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)
 (improvement of the synthesis of the tripotassium methanetrisulfonate monohydrate)
 RN 54322-33-7 CAPLUS
 CN Methanetrisulfonic acid (7CI, 9CI) (CA INDEX NAME)



IT 73224-87-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (improvement of the synthesis of the tripotassium methanetrisulfonate monohydrate)
 RN 73224-87-0 CAPLUS
 CN Methanetrisulfonic acid, tripotassium salt, monohydrate (9CI) (CA INDEX NAME)

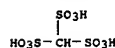


● 3 K

● H₂O

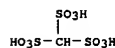
AB The Bagnall-Backer method for the preparation of the title compound [via decarboxylation of acetanilide in SO₃/H₂SO₄ to give (HO₃S)₂C₆H₃NH₂ and HC(SO₃H)₃ (I) then CaO and K₂CO₃ to give HC(SO₃K)₃·H₂O (II)] is improved by the decarboxylation of acetone in SO₃/H₂SO₄ to give I which with KOH gives 49% II.

L20 ANSWER 8 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)



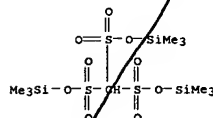
● 3/2 Ba

RN 187610-57-7 CAPLUS
 CN Methanetrisulfonic acid, trisilver(1+) salt (9CI) (CA INDEX NAME)



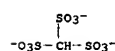
● 3 Ag(I)

IT 187610-60-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of silyl alkanepolysulfonates and estimation of acidity by correlation with ²⁹Si-NMR shift)
 RN 187610-60-2 CAPLUS
 CN Methanetrisulfonic acid, tris(trimethylsilyl) ester (9CI) (CA INDEX NAME)



AB The acidity of alkanepolysulfonic acids was measured using the correlation between the ²⁹Si-NMR shift of the corresponding Me₃Si ester of an acid and the pK_s1 of the acid. The alkanepolysulfonates RCH(SO₃SiMe₃)₂, R₂C(SO₃SiMe₃)₂, RC(SO₃SiMe₃)₃, and Me₃SiO₃(CR₁₂)_nSO₃SiMe₃ (R = H, F, Cl, Br, I; R₁ = H, F; n = 1-5) were prepared and studied.

L20 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1989:573247 CAPLUS
 DOCUMENT NUMBER: 111:173247
 TITLE: The duodecet rule. Part 2. C-H hydrogen bonding by sulfonyl compounds
 AUTHOR(S): Robinson, E. A.
 CORPORATE SOURCE: Erindale Coll., Univ. Toronto, Mississauga, ON, L5L 1C6, Can.
 SOURCE: THEOCHEM (1989), 55, 29-41
 CODEN: THEODJ; ISSN: 0166-1280
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 123177-61-7
 RL: PRP (Properties)
 (total bond orders at sulfur in)
 RN 123177-61-7 CAPLUS
 CN Methanetrisulfonic acid, ion(3-) (9CI) (CA INDEX NAME)



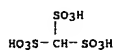
AB By combining linear relationships between log k and log r, bond order (n) and force const. (k) where k is the CS stretching force constant of a bond of length r, a correlation is established between CS bond lengths and simple valence-bond bond orders. For a variety of S(VI) species with bonds to electroneg. ligands, including Me groups, this is used to demonstrate that the total bond order at S in these species is six, consistent with a duodecet rule. Apparently, S-CH₃ groups in compds. such as CH₃SO₂F, CH₃SO₂OH, Me₂SO₂, and related species compete with other ligands for the delocalization of electron pairs into the valence shell of the central sulfur atom, in this case through hyperconjugation. This accounts for the enhanced acidities of hydrogen atoms bonded to α-carbon atoms in such compds., and their ability to form hydrogen bonds. Evidence for hydrogen bonding in CH₃SO₂F, CH₃SO₂Cl, and (CH₃)₂SO₂, and in CH₃SO₂OH (via both S-OH and S-CH₃), is discussed. The use of C-H bond lengths and stretching force const. as a possible diagnostic tool to select mols. capable of CH hydrogen bonding is also discussed.

L20 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN

ACCESSION NUMBER: 1989:553222 CAPLUS
DOCUMENT NUMBER: 111:153222
TITLE: Process for the preparation of alkyl 3-alkoxypropionates
INVENTOR(S): Jones, Glenn C.; Nottingham, William D.; Reynolds, Peter W.
PATENT ASSIGNEE(S): Eastman Kodak Co., USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4827021	A	19890502	US 1988-164663	19880307
CA 1326242	A1	19940118	CA 1989-591956	19890224
WO 8908636	A1	19890921	WO 1989-US763	19890227
W: AU, JP, KR	DE, FR, GB, IT, LU, NL, SE			
AU 8933504	A1	19891005	AU 1989-33504	19890227
AU 609288	B2	19910426		
EP 403528	A1	19901227	EP 1989-903301	19890227
EP 403528	B1	19930210		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 03503282	T2	19910725	JP 1989-503132	19890227
JP 2738967	B2	19980408		
AT 85603	E	19930215	AT 1989-903301	19890227
KR 9700138	B1	19970104	KR 1989-72047	19891106
PRIORITY APPLN. INFO.:			US 1988-164663	A 19880307
			EP 1989-903301	A 19890227
			WO 1989-US763	A 19890227

OTHER SOURCE(S): MARPAT 111:153222
IT 54322-33-7, Methanetrissulfonic acid
RL: CAT (Catalyst use); USES (Uses)
(catalyst, for addition of alkoxy methane with ketene)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



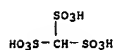
AB R1OCH2CR3R4CO2R2 (I; R1, R2 = Cl-8 alkyl; R3, R4 = H, alkyl, aryl), useful as solvents in the formation of coating compns., are prepared by addition of R1OCH2CR2 with R3R4C:CO in the presence of CH2(SO3H)2, CH(SO3H)3, or mixture thereof. A mixture of 23.0 g CH2(OMe)2, 0.071 CH2(SO3H)2, and 0.30 and CH2:CO was stirred at 25-40° under N to give 24.9 g I (R1 = R2 = Me, R3 = R4 = H). Similarly prepared was I (R1 = R2 = Et, R3 = R4 = H).

L20 ANSWER 13 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN

ACCESSION NUMBER: 1985:184717 CAPLUS
DOCUMENT NUMBER: 102:184717
TITLE: Alkoxylation of alcohols and phenols
INVENTOR(S): Moody, Keith
PATENT ASSIGNEE(S): ICI Australia Ltd., Australia
SOURCE: Pat. Specif. (Aust.), 15 pp.
CODEN: ALXXAP
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
AU 538363	B2	19840809	AU 1981-71460	19800613
AU 8171460	A1	19811217		
PRIORITY APPLN. INFO.:			AU 1981-71460	19800613

IT 54322-33-7
RL: CAT (Catalyst use); USES (Uses)
(catalyst, for alkoxylation of alcs. and phenols)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

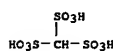


AB Alcs. and phenols were alkoxyated with alkylene oxides in the presence of catalysts consisting of organic sulfonic acids or their salts. The sulfonic acids chosen have an acid strength greater than that of methanesulfonic acid; the cations are chosen from first row transition metals, Be, Mg, Ca, B, Al, Sn, or Zr. Thus, BuOH was ethoxylated with ethylene oxide (6:1 mol ratio) at 160° in the presence of Zn methanesulfonate to give 93.8% ethylene glycol monobutyl ether and small amts. of diethylene glycol monobutyl ether (20.9:1 mol ratio). Other catalyst used were Zn benzenesulfonate or trifluoromethanesulfonate and Al methanedisulfonate.

L20 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN

ACCESSION NUMBER: 1986:431749 CAPLUS
DOCUMENT NUMBER: 105:31749
TITLE: The electrochemistry of a dimeric and two monomeric cis-trioxomolybdenum(VI) complexes containing cyclic triamine ligands in protic and aprotic media: model compounds for the active sites in formate dehydrogenase
AUTHOR(S): Herrmann, Willy; Wieghardt, Karl
CORPORATE SOURCE: Ruhr-Univ., Bochum, D-4630, Fed. Rep. Ger.
SOURCE: Polyhedron (1986), 5(11-12), 513-20
CODEN: PLYHDE; ISSN: 0277-5387
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 54322-33-7

RL: PRP (Properties)
(electrochem. reduction of molybdenum trioxotriazacyclononane or molybdenum trioxotrimethyltriazacyclononane nuclear and dinuclear complexes on mercury in)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



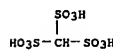
AB The electrochem. of cis-MoO3L (I), (L = N,N',N''-trimethyl-1,4,7-triazacyclononane) or cis-MoO3L' (II), (L' = 1,4,7-triazacyclononane) was in protic (CH3SO3H) and aprotic media (DMF) by cyclic voltammetry at the hanging Hg drop (HMD) electrode. I and II are quasi-reversibly reduced by a 2e-, 4H+ step in acidic solns. to give monomeric [LMo(IV)O(OH)2]2+ and [L'Mo(OH)2]2+, which in the case of I is further reduced to a monomeric Mo(III) species which then undergoes a reversible chemical reaction (dimerization). In contrast, reduced II undergoes chemical reactions (dimerization or trimerization of [L'Mo(OH)2]2+ or disproportionation reactions) due to the fact that the unmethylated cyclic amine in II is sterically less demanding. I and II are redox-inactive in DMF (+1.0 to -1.7 V vs. Ag-AgCl at a Pt or a glassy C electrode). Dimeric [L2Mo2O5] (PF6)2, (III) is reversibly reduced to a Mo(V)2 dimer (2e-, 2H+ process) and, finally, to a Mo(III)2 dimer (4e-, 4H+) in 0.1M CH3SO3H at an HMD electrode, contrasting with the behavior in aprotic media (DMF), Pt electrode, where 2 reversible 1-electron transfer processes generating the blue, mixed-valence species Mo(VI)/(V) and an Mo(V)2 dimer were observed.

L20 ANSWER 14 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN

ACCESSION NUMBER: 1983:523106 CAPLUS
DOCUMENT NUMBER: 99:123106
TITLE: N-phenylcarbamate ester oligomers
PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

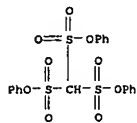
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58085852	A2	19830523	JP 1981-183739	19811118
JP 62008430	B4	19870223		
PRIORITY APPLN. INFO.:			JP 1981-183739	19811118

IT 54322-33-7
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for oligomerization of phenylcarbamate esters with methylene donors)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

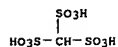


AB N-Phenylcarbamate esters are oligomerized with methylene donors in the presence of solid-supported polysulfonic acids. Thus, 10g kieselsuhr and 3.5g CH2(SO3H)2 (I) [503-40-2] in 10 mL H2O was dried and baked 6 h at 200° to give catalyst containing 14% I. A mixture of the above catalyst 3, Et N-phenylcarbamate (II) 8.25, and dimethoxymethane 1g in 40 mL sulfolane was heated 1 h in an autoclave at 140° to convert 56% II to oligomers [87093-19-4] containing 73% 1,1'-methylenebis(4-ethoxycarbonylaminobenzene) (10097-16-2) and 11% 1,3'-methylenebis(4-ethoxycarbonylaminobenzene) (70381-86-1).

L20 ANSWER 15 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1983:504727 CAPLUS
 DOCUMENT NUMBER: 99:104727
 TITLE: Methanetrilsulfonic acid derivatives
 AUTHOR(S): Yagupol'skii, Yu. L.; Savina, T. I.
 CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
 SOURCE: Zhurnal Organicheskoi Khimii (1983), 19(1), 79-82
 CODEN: ZORKAE; ISSN: 0514-7492
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 OTHER SOURCE(S): CASREACT 99:104727
 IT 86107-38-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 86107-38-2 CAPLUS
 CN Methanetrilsulfonic acid, triphenyl ester (9CI) (CA INDEX NAME)

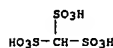


IT 54322-33-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with sulfur tetrafluoride)
 RN 54322-33-7 CAPLUS
 CN Methanetrilsulfonic acid (7CI, 9CI) (CA INDEX NAME)



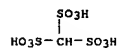
AB CH(SO₃H)₃ and SF₄ gave CH(SO₂F)₃, which with Br, iodine, or Me₃SiCl gave the corresponding RC(SO₂F)₃. CH₂(SO₂F)₂ and Ag₂O gave AgCH(SO₂F)₂, which with MeI or C₆F₅SiCl gave, resp., MeCH(SO₂F)₂ and C₆F₅SiCH(SO₂F)₂. 4-MeC₆H₄SO₃F and trifluoromorpholinosulfur gave 4-MeC₆H₄SO₂F.

L20 ANSWER 16 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1981:174556 CAPLUS
 DOCUMENT NUMBER: 94:174556
 TITLE: 2-Hydroxyacetophenone via Fries rearrangement and related reactions. A comparative applied study
 AUTHOR(S): Hocking, Martin B.
 CORPORATE SOURCE: Dep. Chem., Univ. Victoria, Victoria, BC, V8W 2Y2, Can.
 SOURCE: Journal of Chemical Technology and Biotechnology (1979-1982) (1980), 30(11), 626-41
 CODEN: JCTBDC; ISSN: 0142-0356
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 94:174556
 IT 54322-33-7
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for Fries rearrangement of Ph acetate)
 RN 54322-33-7 CAPLUS
 CN Methanetrilsulfonic acid (7CI, 9CI) (CA INDEX NAME)

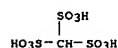


AB PhOAc was prepared directly from PhOH and AcOH in the presence of H₂SO₄; thermal rearrangement of PhOAc was studied in the presence of methanesulfonic and -trilsulfonic acids, p-MeC₆H₄SO₃H, and sulfonated cation exchange resin. Catalysis by H₂SO₄, H₂SO₄.H₂O, H₃PO₄, NaHSO₄, and CaCl₂ was also studied. The catalysts gave o- and p-HOC₆H₄Ac, with larger amts. of the ortho derivative at higher temps. The rates, product ratios, and yields of these processes were compared. AlCl₃, ZnCl₂, and BF₃ all gave faster reactions than the proton acids, and higher ortho-para ratios, especially with BF₃ at low temps. The results obtained with the proton acids and other compds. and with the Lewis acids were compared. The object of the studies was to provide a com. route to pyrocatechol.

L20 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1981:139146 CAPLUS
 DOCUMENT NUMBER: 94:139146
 TITLE: Tris(fluorosulfonyl)methane, HC(SO₂F)₃
 AUTHOR(S): Kloeter, Gerhard; Fritzkow, Hans; Seppelt, Konrad
 CORPORATE SOURCE: Anorg. Chem. Inst., Univ. Heidelberg, Heidelberg, D-6900/1, Fed. Rep. Ger.
 SOURCE: Angewandte Chemie (1980), 92(11), 954-5
 CODEN: ANCEAD; ISSN: 0044-8249
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 IT 54322-33-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with sulfur tetrafluoride)
 RN 54322-33-7 CAPLUS
 CN Methanetrilsulfonic acid (7CI, 9CI) (CA INDEX NAME)

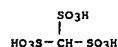


IT 75533-77-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with sulfuric acid)
 RN 75533-77-6 CAPLUS
 CN Methanetrilsulfonic acid, barium salt (2:3) (9CI) (CA INDEX NAME)



• 3/2 Ba

IT 75533-76-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with barium ion)
 RN 75533-76-5 CAPLUS
 CN Methanetrilsulfonic acid, monopotassium salt (9CI) (CA INDEX NAME)

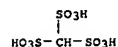


• K

AB Successive treatment of HC(SO₃K)₃ with Ba²⁺, H₂SO₄, and SF₄ gave, via HC(SO₃Ba/2)₃ and HC(SO₃H)₃, HC(SO₂F)₃ (I), which is a monobasic acid with strength falling between those of HSO₃F and HNO₃. Treatment of I with bases gave the salts MC(SO₂F)₃ (M = K, Rb, Cs and Ag); crystal structures

L20 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
 of the K and Rb salts were detd. Treatment of AgC(SO₂F)₃ with MeI or X₂ gave, resp., MeC(SO₂F)₃ and XC(SO₂F)₃ (X = Cl, Br, I). FC(SO₂F)₃ was prepd. by fluorinating I with XeF₂.

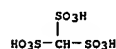
L20 ANSWER 18 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1981:68557 CAPLUS
 DOCUMENT NUMBER: 94:68557
 TITLE: New electrolytes for direct methane fuel cells
 AUTHOR(S): Brummer, S. B.; Foss, J.; McHardy, J.; McVeigh, J.; Toland, D.; Turner, M.
 CORPORATE SOURCE: EIC Corp., Newton, MA, USA
 SOURCE: Report (1979), DOE/ET/11321-T1, 74 pp. Avail.: NTIS From: Energy Res. Abstr. 1980, 5(10), Abstr. No.
 15977
 DOCUMENT TYPE: Report
 LANGUAGE: English
 IT 54322-33-7
 RL: USES (Uses)
 (electrolytes, for direct-methane fuel cells, development and testing of)
 RN 54322-33-7 CAPLUS
 CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



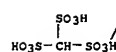
AB A program aimed at developing a fuel-cell electrolyte for the direct oxidation of CH₄ and/or impure H₂ fuels is described. Of interest are di- and tribasic methanesulfonic acids CX₂(SO₃H)₂ and CX(SO₃H)₃ where X is H, F, or Cl. Synthetic routes to CH₂(SO₃H)₂ [503-40-2], CH(SO₃H)₃ [54322-33-7], CCl₂(SO₃H)₂ [76371-35-2], and CCl(SO₃H)₃ [76371-36-3] were identified and optimized. The diphenyl ester of CF₂(SO₃H)₂ was prepared and various approaches to CF(SO₃H)₃ [76371-37-4] were investigated. In parallel with the synthetic program, apparatus was designed and fabricated for the testing of the electrolytes under fuel-cell conditions. A new PTFE test cell was developed for testing small amts. of electrolyte. Electrodes with low Pt loading were developed for use in electrolyte evaluation. Optimum performance with H₃PO₄ was achieved using 1 mg Pt/cm² and 1 mg TFE 30/cm² deposited on TFE tape, supported on a Au-plated Ta screen, and sintered. Preliminary half-cell tests using CH₂(SO₃H)₂ and CH(SO₃H)₃ indicated that these acids are insufficiently stable for use as fuel-cell electrolytes. However, tests using CCl₂(SO₃H)₂ and CCl(SO₃H)₃ were encouraging, yielding H₂ oxidation rates equal to or better than those using H₃PO₄. Stability tests were conducted by heating a sample of each acid at 130° for 30 days under N₂, O₂, and H₂. At the end of the test, each sample was analyzed for decomposition. In no case did IR anal. indicate significant decomposition and in the case of the chloroacids, only a trace amount of free Cl⁻ was observed. Conductivity measurements showed the aqueous acids to be of the same conductivity as aqueous H₃PO₄. The dihydrate of CH₂(SO₃H)₂ was more conductive than CF₃SO₃H.H₂O [49789-04-0] but less conductive than 100% H₃PO₄.

L20 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
 .apprx.113° indicate an expansion from tetrahedral stereochem. and the S-C bond lengths of .apprx.1.81 Å are longer than those for K₂[CH₂(SO₃)₂] (1.77 Å) and Ca[CH₃SO₃]₂ (1.75 Å). The IR (4000 to 50 cm⁻¹) and Raman spectra of K₃[CH(SO₃)₃].H₂O and K₃[CD(SO₃)₃].D₂O were detd. at 77° K and interpreted in accordance with the structure, and with the use of the spectra of anhyd. K₃[CH(SO₃)₃] and of aq. solns. of the sol. Li salts. The SO₃ groups show their characteristic group frequencies: ν_{sym}(C-S) 762, ν_{asym}(C-S) 820, δ_{sym}(CS₃) 170, and δ_{asym}(CS₃) .apprx.210 cm⁻¹, resp. IR spectra of samples contg. the isotopically dil. H₂O species confirm the presence of 2 types of H bond per H₂O mol.

L20 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1980:145976 CAPLUS
 DOCUMENT NUMBER: 92:145976
 TITLE: Crystal structure, and the infrared and Raman spectra, of tripotassium methanetrissulfonate hydrate, K₃[CH(SO₃)₃].H₂O
 AUTHOR(S): Hall, John R.; Johnson, Robert A.; Kennard, Colin H. L.; Smith, Graham
 CORPORATE SOURCE: Dep. Chem., Univ. Queensland, Brisbane, 4067, Australia
 SOURCE: Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1972-1999) (1980), (1), 149-55
 CODEN: JCDTBI; ISSN: 0300-9246
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 73224-78-9
 RL: PRP (Properties)
 (IR and Raman spectra of aqueous)
 RN 73224-78-9 CAPLUS
 CN Methanetrissulfonic acid, tri-lithium salt (9CI) (CA INDEX NAME)



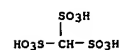
● 3 Li
 IT 73224-87-0
 RL: PRP (Properties)
 (crystal and mol. structure, and IR and Raman spectra of)
 RN 73224-87-0 CAPLUS
 CN Methanetrissulfonic acid, tripotassium salt, monohydrate (9CI) (CA INDEX NAME)



● 3 K
 ● H₂O

AB The crystal and mol. structure of K₃[CH(SO₃)₃].H₂O was determined by X-ray diffraction as an aid in the assignment of the IR and Raman spectra. The structure was solved using direct methods and refined by full-matrix least squares to R 0.045 for 839 observed unique reflections. The S-C-S angles of

L20 ANSWER 20 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1975:139193 CAPLUS
 DOCUMENT NUMBER: 82:139193
 TITLE: Reactions of dipotassium diazomethanedisulfonate in aqueous solution
 AUTHOR(S): Young, J. Michael
 CORPORATE SOURCE: Dep. Pharmacol., Univ. Cambridge, Cambridge, UK
 SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1974), (22), 2541-3
 CODEN: JCPRB4; ISSN: 0300-922X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 82:139193
 IT 55110-91-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 55110-91-3 CAPLUS
 CN Methanetrissulfonic acid, tripotassium salt (3CI, 9CI) (CA INDEX NAME)



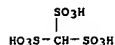
● 3 K

AB Decomposition of (KO₃S)₂CH₂ (I) in H₂O at 4° gave (KO₃S)₃CH and (KO₃S)₂C:NNH₂, in N KOH at 70° gave (KO₃S)₂C:NNKSO₃K, and in aqueous piperidine at 70° gave (KO₃S)₂CH₂. I with MeOH gave (KO₃S)₂CHOMe.

L20 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1975:64946 CAPLUS
DOCUMENT NUMBER: 82:64946
TITLE: Solid catalysts for heterogeneous reactions
INVENTOR(S): Rons, Peter
PATENT ASSIGNEE(S): IMI (TAMI) Institute for Research and Development
SOURCE: Ger. Offen., 21 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2401958	A1	19740718	DE 1974-2401958	19740116
US 3920582	A	19751118	US 1974-430804	19740104
GB 1446964	A	19760818	GB 1974-1839	19740115
JP 50046587	A2	19750425	JP 1974-7615	19740117
PRIORITY APPLN. INFO.:			IL 1973-41330	A 19730117

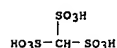
IT 54322-33-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst preparation with, for heterogeneous catalysis or organic reactions)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB Catalysts for heterogeneously catalyzed reactions were prepared by impregnation of carriers with sulfonic acids. Thus, 50 g SiO₂-Al₂O₃ pellets were treated for 30 min with 14 g benzene-1,3-disulfonic acid in H₂O at 80°, dried for 6 hr at 150°, and calcined for 6 hr at 200° to give 60/g catalyst. A H₂O-C₂H₄ mixture of mol. ratio 1:1 was passed over this catalyst at 195° to give a C₂H₄-C₂H₅OH conversion of 0.3-0.5 mole % without splitting off acid from this catalyst.

L20 ANSWER 23 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1963:14557 CAPLUS
DOCUMENT NUMBER: 58:14557
ORIGINAL REFERENCE NO.: 58:2371g-h
TITLE: Esterification catalysts
INVENTOR(S): Touey, George P.; Goins, Rex H.
PATENT ASSIGNEE(S): Eastman Kodak Co.
SOURCE: 3 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

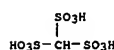
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3053084		19620911	US 1959-845336	19591009
IT 54322-33-7, Methanetrissulfonic acid (as catalyst for esterification)				
RN 54322-33-7 CAPLUS				
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)				



AB CH₂(SO₃H)₂ and CH(SO₃H)₃ are superior catalysts for preparing esters by treating saturated aliphatic mono- and polyhydroxy alcs. with phenyl dicarboxylic acids or saturated aliphatic carboxylic acids and their anhydrides. A lower concentration of catalyst is required and the ester produced is nearly colorless and is heat stable. Two moles phthalic anhydride and five moles BuOH were refluxed 7 hrs. in the presence of various acid catalysts. The catalyst used, the catalyst concentration based on the phthalic anhydride, and the percent phthalic acid in the product are: CH₂(SO₃H)₂, 0.1, 0.02; CH(SO₃H)₃, 0.1, 0.03; H₂SO₄, 0.1, 0.35; MeSO₃H, 0.2, 1.6; MeC₆H₄SO₃H, 1.0, 2.0; (CH₂SO₃H)₂, 0.2, 0.85. Data are given which show the superiority of these two catalyst for the esterification of n-octyl alc. with adipic acid and glycerol with 2-ethylhexanoic acid.

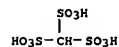
L20 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1963:468923 CAPLUS
DOCUMENT NUMBER: 59:68923
ORIGINAL REFERENCE NO.: 59:12707d-f
TITLE: Alkylation of phenols
INVENTOR(S): McConnell, Wayne V.; Davis, Herman E.
PATENT ASSIGNEE(S): Eastman Kodak Co.
SOURCE: 2 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3082258		19630319	US 1960-28557	19600512
IT 54322-33-7, Methanetrissulfonic acid (catalyst in alkylation of phenols)				
RN 54322-33-7 CAPLUS				
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)				



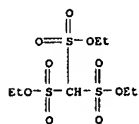
AB The preparation of 2,6-di-tert-butyl-4-methylphenol (I) from 4-methylphenol (II) and isobutylene using hydrated methanedi- or trisulfonic acid catalysis was described. I was useful as an antioxidant and stabilizer for fats and oils. Thus, 112 g. isobutylene was bubbled through a flask containing 108 g. II and 1.1 g. methanedisulfonic acid dihydrate (III) in 100 cc. benzene. In the initial stages the temperature varied from 25-40° due to the cooling effect of isobutylene refluxing in a dry ice-acetone cooled condenser. Thereafter the temperature was held at 40° for a total reaction time of 6 hrs. The supernatant liquid was decanted from the catalyst. Unreacted II (6%) and 2-tert-butyl-4-methylphenol (31% conversion) were extracted with aqueous NaOH. After removal of C₆H₆, I was obtained (63% conversion), m. 68-9° (50% aqueous MeOH). Under the same conditions, 5.5 g. III gave an 88% conversion to I. Only a 20% conversion resulted from use of 1,2-ethanedithiolonic acid. Benzenedisulfonic acid caused polymerization of isobutylene. When p-toluenesulfonic acid or H₂SO₄ was used in concentration of 5% based on the weight of II the product had poorer color and odor. White, odorless I could also be prepared in 84 and 80% conversions, resp., using 2.2 g. III and no solvent or using 1% by weight methanetrissulfonic acid trihydrate.

L20 ANSWER 24 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1953:70596 CAPLUS
DOCUMENT NUMBER: 47:70596
ORIGINAL REFERENCE NO.: 47:11919f-1
TITLE: Acid-base equilibria in glacial acetic acid
AUTHOR(S): Smith, Thor L.; Elliott, John H.
CORPORATE SOURCE: Hercules Powder Co., Wilmington, DE
SOURCE: Journal of the American Chemical Society (1953), 75, 3566-71
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 54322-33-7, Methanetrissulfonic acid
(ionization in AcOH)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



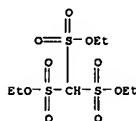
AB Values of H₀ for dilute solns. (5 + 10⁻⁴ to 5 + 10⁻³ M) of 11 strong acids in AcOH containing 0.12% water were measured by use of indicators α-naphtholbenzein (I) and o-nitroaniline. H₀ = -log(BH⁺)/(B) + pK_a, where (BH⁺) and (B) are the concns. of the acidic and basic forms of an indicator, and pK_a is the thermodynamic dissociation constant for the conjugate acid of the indicator. The pK_a for I was evaluated as 0.53. The order of increasing acid strength at equal molarities is: HCl, methanesulfonic, sulfuric, carboxymethanesulfonic, chloromethanesulfonic, chlorocarboxymethanesulfonic, HBr, perchloric, methanedisulfonic, chloromethanedisulfonic, and methanetrissulfonic acids. H₀ values for anhydrous solns. of 4 monobasic acids at 5 + 10⁻³ M were measured, and from the increased acidity found, equilibrium consts. for the reaction of the acids with water were calculated. H₂SO₄ was found to be monobasic. Dissociation consts., K_c, of HCl, HBr, HClO₄, and H₂SO₄ in AcOH (calculated from conductivity data of Kohlthoff and Willman (C.A. 28, 3644.1)) are 5.1 + 10⁻¹⁰, 1.9 + 10⁻⁷, 9 + 10⁻⁷, and 7.4 + 10⁻⁹, resp. The fact that values of ΔpK_c from conductivity and from H₀ data are in reasonable agreement shows that equilibrium in AcOH involve, primarily, undissocd. species.

L20 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 1952:26486 CAPLUS
 DOCUMENT NUMBER: 46:26486
 ORIGINAL REFERENCE NO.: 46:4471e-g
 TITLE: The synthesis of certain derivatives of methionic acid
 AUTHOR(S): Shu, Rue-Cheng; Jenkins, Glenn L.; Christian, John E.
 CORPORATE SOURCE: Purdue Univ., Lafayette, IN
 SOURCE: Journal of the American Pharmaceutical Association (1912-1977) (1951), 40, 86-8
 CODEN: JPHAA3; ISSN: 0003-0465
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 IT 873390-12-6, Methanetrissulfonic acid, triethyl ester (preparation of)
 RN 873390-12-6 CAPLUS
 CN Methanetrissulfonic acid, triethyl ester (SCI) (CA INDEX NAME)



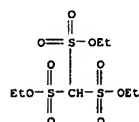
AB N,N'-Di-p-phenylmethionamide, m. 219.2-21°, was prepared by adding CH₂(SO₂Cl)₂ in anhydrous C₆H₆ dropwise to p-phenetidine in C₆H₆ at 0°, refluxing, cooling, filtering out the precipitate, washing with cold H₂O, decolorizing with charcoal, and recrystg. from alc. dioxane. By similar procedure were prepared the following analogs: N,N'-di-o-phenetyl, m. 131-2°; N,N'-di-m-phenetyl, m. 166.8-7.8°; N,N'-bis(p-carbobutoxyphenyl)methionamide, m. 180.5-1.0°. Methionate esters: di-1-naphthyl, m. 136.8-7.4°; di-2-naphthyl, m. 231.5-6.1°; bis(o-methoxyphenyl), m. 99.6-100.4°.

L20 ANSWER 26 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 1952:26485 CAPLUS
 DOCUMENT NUMBER: 46:26485
 ORIGINAL REFERENCE NO.: 46:4471d-e
 TITLE: Trisulfonylmethanes and methanetrissulfonates
 AUTHOR(S): Samen, Evald
 CORPORATE SOURCE: Uppsala Univ., Swed.
 SOURCE: Svensk Kem. Tid. (1951), 63, 31-41
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 873390-12-6, Methanetrissulfonic acid, triethyl ester (preparation of)
 RN 873390-12-6 CAPLUS
 CN Methanetrissulfonic acid, triethyl ester (SCI) (CA INDEX NAME)



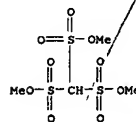
AB cf. C.A. 45, 10190b. Review of work by S. and others, with complementary expts. Refluxing CH(SO₂Et)₃ with absolute alc. and CHCl₃ produced no ester, even with H₂SO₄ as catalyst. A trisulfone can be titrated with Br and KBr (methyl orange indicator). CBr(SO₂Et)₃ refluxed with powdered Ag or K pellets in C₆H₆ failed to produce C₂(SO₂Et)₆, and a mixture of Et₂C(CO₂H)₂, PhSH, and anhydrous HCl produced no hexasulfide. Br added to CH(SO₂Et)₃ (I) in H₂O gives CBr(SO₂Et)₃ (II), needles, m. 60°-60.5°, and decomposing 110°. II liberates iodine from KI, but I does not.

L20 ANSWER 27 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 1951:59987 CAPLUS
 DOCUMENT NUMBER: 45:59987
 ORIGINAL REFERENCE NO.: 45:10190b-d
 TITLE: Ethyl methanetrissulfonate and its hydrolysis
 AUTHOR(S): Samen, Evald
 CORPORATE SOURCE: Univ. Uppsala, Swed.
 SOURCE: Arkiv foer Kemi (1951), 3, 303-8
 CODEN: ARKEAD; ISSN: 0365-6128
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 IT 873390-12-6, Methanetrissulfonic acid, triethyl ester (and its hydrolysis)
 RN 873390-12-6 CAPLUS
 CN Methanetrissulfonic acid, triethyl ester (SCI) (CA INDEX NAME)



AB cf. C.A. 44, 1400d, 9339e. Gentle refluxing of 5.8 g. HC(SO₃Ag)₃ for 14 hrs. with 5 g. EtI in 30 ml. C₆H₆ yielded 2.4 g. nearly pure HC(SO₂OEt)₃ (I), fine needles, m. 74° (from C₆H₆-petr. ether). Br water added to I in H₂O causes an immediate white precipitate (II), which dissolves rapidly to a clear solution (III). Both II and III liberate iodine from KI. I in absolute EtOH reacts with Br immediately, less rapidly in Me₂CO, and slowly in glacial AcOH, the addition of water to the glacial AcOH causes a disappearance of the Br color. I in NaOH causes a slow decrease in the concentration of NaOH, the anion of HC(SO₂OH)₃ being unstable in alkali. A dilute alkaline solution of HC(SO₂OK)₃ uses up alkali and, after acidification the solution, reduces MnO₄⁻ with the probable production of SO₃²⁻. The 1st step in the hydrolysis of I was found to be catalyzed by H₃O⁺. In water (no mineral acid), the bimol. constant = 0.316 l./moles-min. and in 0.050 N and 0.100 N HCl the pseudounimol. consts. = 0.0189 and 0.0336/min., resp. The hydrolysis measurements were carried out at 25° in a glass-stoppered flask and periodic samples were titrated with KBr and Br (Me orange) for the HCl catalyzed studies.

L20 ANSWER 28 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 1950:49172 CAPLUS
 DOCUMENT NUMBER: 44:49172
 ORIGINAL REFERENCE NO.: 44:9339a-b
 TITLE: Hydrolysis of methyl methanetrissulfonate
 AUTHOR(S): Samen, Evald
 CORPORATE SOURCE: Univ. of Uppsala, Swed.
 SOURCE: Acta Chemica Scandinavica (1950), 4, 397-8
 CODEN: ACHSE7; ISSN: 0904-213X
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 IT 872793-71-0, Methanetrissulfonic acid, trimethyl ester (hydrolysis velocity of)
 RN 872793-71-0 CAPLUS
 CN Methanetrissulfonic acid, trimethyl ester (SCI) (CA INDEX NAME)

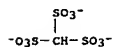


AB The hydrolysis of CH(SO₃Me)₃ (I) in aqueous HCl was studied by titration with Br and an azo indicator (methyl orange). (It was assumed that only unhydrolyzed triester absorbed Br.) The reaction was found to be pseudounimol. I was prepared from MeI and CH(SO₃Ag)₃.

L20 ANSWER 29 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1950:28491 CAPLUS
DOCUMENT NUMBER: 44:28491
ORIGINAL REFERENCE NO.: 44:5552b-d
TITLE: Aluminum methionate
INVENTOR(S): Christian, John E.; Jenkins, Glenn L.
PATENT ASSIGNEE(S): Purdue Research Foundation
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	US 2504107		19500418	US 1946-701091	19461004
IT	855840-41-4				
	Methanetrissulfonic acid, aluminum salt				
	(preparation of)				
RN	855840-41-4				
	CAPLUS				
CN	Methanetrissulfonic acid, aluminum salt (5CI) (CA INDEX NAME)				



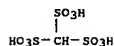
● Al³⁺

AB Certain Al alkyl sulfonates are effective as antiperspirants, e.g. Al methionate (I), Al ethanedisulfonate, Al methanetrissulfonate, Al methanesulfonate, Al sulfoacetate, Al o-sulfobenzoate. General requirements are: the Al ion or its equivalent; one or more sulfo groups; an alkyl group. The more sulfo groups, the greater is the astringency. I is prepared by adding a solution of Al₂(SO₄)₃ to a solution of Ca methionate in water, digesting the mixture for 10 min., and filtering it. The solution of I is concentrated, and EtOH is added until I crystallizes out. I is hygroscopic, soluble in water, does not crystalline out of astringent creams. The other Al salts are prepared by treating the respective Ba compds. with Al₂(SO₄)₃ solution. These antiperspirants are harmless to skin and fabrics.

L20 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1949:27346 CAPLUS
DOCUMENT NUMBER: 43:27346
ORIGINAL REFERENCE NO.: 43:5035H-1
TITLE: Reaction of acetylene and acetic acid. Societe des usines chimiques Rhone-Poulenc
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

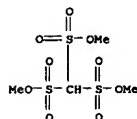
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	FR 867066		19410926	FR	19400224
IT	54322-33-7				
	Methanetrissulfonic acid				
	(catalyst of HgO, HgSO ₄ and, in C ₂ H ₂ reaction with AcOH)				
RN	54322-33-7				
	CAPLUS				
CN	Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)				



AB With a mixture of sulfonic acids containing CH-(SO₃H)₃ 36, HgSO₄ 21, and HgO 14 as catalyst, AcOH 5600 g. and C₂H₂ give CH₂CHOAc or MeCH(OAc)₂. The sulfonic acid mixture is prepared by adding 631 H₂SO₄ 1070 to Ac₂O 400 g. slowly so that the temperature does not rise above 115°, letting stand 3 hrs. at 120°, adding glacial AcOH 500 g. with the temperature at 120° another 3 hrs., and then more glacial AcOH 3000 g., with stirring 0.5 hr. The mixture contains 15% CH (SO₃H)₃.

L20 ANSWER 30 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN

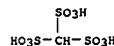
ACCESSION NUMBER: 1950:7342 CAPLUS
DOCUMENT NUMBER: 44:7342
ORIGINAL REFERENCE NO.: 44:1400d-f
TITLE: Methyl methanetrissulfonate
AUTHOR(S): Samen, Evald
SOURCE: Arkiv foer Kemi (1949), 1, 231-3
CODEN: ARKEAD; ISSN: 0365-6128
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 872793-71-0, Methanetrissulfonic acid, trimethyl ester (preparation of)
RN 872793-71-0 CAPLUS
CN Methanetrissulfonic acid, trimethyl ester (5CI) (CA INDEX NAME)



AB cf. C.A. 37, 5015.8. Tri-Me methanetrissulfonate (I) was prepared for the first time by refluxing 11.5 g. dry CH(SO₂OAc)₃ (cf. C.A. 25, 915) 8 hrs. with 9 g. MeI in 50 ml. C₆H₆; the filtrate from the precipitated AgI deposited 1.8 g. I which separated from boiling C₆H₆ in long fine needles, m. 110-111°. I possesses strong acid properties and is sparingly soluble in C₆H₆, Et₂O, and CHCl₃, but more soluble in H₂O. I (68.09 mg.) in 10 ml. boiling H₂O was hydrolyzed in 1 min.; a 0.01 M solution in H₂O was half hydrolyzed in 20 hrs. at room temperature. I (0.6 g.) in 10 ml. H₂O at 0° reacted immediately with an equivalent amount of Br in cold H₂O, forming 0.4 g. C₆H₉O₉BrS₃ (II), m. 140°. II liberated iodine from KI instantly and quantitatively. Br in AcOH reacted slowly with I in the same solvent. Addition of H₂O caused the Br color to vanish immediately.

L20 ANSWER 32 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1947:11308 CAPLUS
DOCUMENT NUMBER: 41:11308
ORIGINAL REFERENCE NO.: 41:2303e-g
TITLE: Diameter changes of gelatinized coacervate drops of the complex coacervate gelatin-gum arabic, resulting from a change in pH of, or from the addition of neutral salts to, the surrounding medium. I de Jong, H. G. Bungenberg; Landsmeer, J. M. F. Univ., Leiden
CORPORATE SOURCE: Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1946), 65, 606-13
CODEN: RTCPB4; ISSN: 0370-7539
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 55110-91-3, Methanetrissulfonic acid, tripotassium salt (effect on diameter changes of coacervate drops of gelatin-gum arabic)
RN 55110-91-3 CAPLUS
CN Methanetrissulfonic acid, tripotassium salt (3CI, 9CI) (CA INDEX NAME)

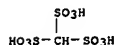


● 3 K

AB Diameter changes of coacervate drops (100-200 μ) reached equilibrium quickly (5-10 min.) in media of a given pH or salt concentration. The changes were followed microscopically at salt concns. low enough (10-40 milliequiv. per l.) to allow reversibility in the swelling and shrinking. The diameter is a min. at the pH (3.7) where the H₂O content is a min. Reversible swelling due to addition of a salt (KCl, CaCl₂, LaCl₃, K₂SO₄, or K₃CH(SO₃)₃) is least for the 1-1 valence type and increases as the salt deviates from this valence type (double valence rule).

L20 ANSWER 33 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1944:16250 CAPLUS
DOCUMENT NUMBER: 38:16250
ORIGINAL REFERENCE NO.: 38:2347E-g
TITLE: Reaction of oleum with AcOH or Ac2O
INVENTOR(S): Cockerille, Frank O.
PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

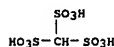
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2333701		19431109	US 1940-365947	19401116
IT 54322-33-7, Methanetrissulfonic acid (preparation of)				
RN 54322-33-7 CAPLUS				
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)				



AB Methanetrissulfonic acid is prepared by a process involving adding HOAc or Ac2O to oleum, in a proportion of 4 to 7 parts of oleum to each part of the HOAc or Ac2O, the temperature being allowed to rise gradually to 65-85° during the addition of 50-75% and not above 90° during the addition of the remainder, of the Ac2O or HOAc, and completing the reaction by holding the mixture at 90-100°.

L20 ANSWER 34 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
(010):(111) = 54° 5'; (001):(111) = 57° 30'; (001):- (102) = 29° 25'; (010):(.hivin.110) = 43° 50'; plane of the optical axes (100); the sharp bisectrix is (010); $\rho > \nu$; the crystals are optically negative. The normal TI salt is anhyd. Normal Ba salt (9H2O); at 25° 100 g. water dissolves 0.845 g. anhyd. salt; crystallographic properties: rhombic system; a:b:c = 0.834:1:0.564; observed forms (212), (010), (110), (111) and (120); angles:(010):(110) = 50° 11'; (010):(111) = 64° 57'; (010):(212) = 76° 47'; (010):(120) = 31° 30'; plane of the optical axes (010). Normal NH4 salt, anhyd.; crystallographic properties: rhombic system; a:b:c = 0.9573:1:1.7022; observed forms (001), (011), (101), (110) and (211); angles:(001):- (011) = 59° 34'; (100):(101) = 29° 21'; (100):(110) = 43° 44'; (100):(211) = 29° 16'. PC15 with the free acid does not give the trisulfonyl chloride, SO2 being evolved; therefore, derivs. could not be prep'd.

L20 ANSWER 34 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1932:23284 CAPLUS
DOCUMENT NUMBER: 26:23284
ORIGINAL REFERENCE NO.: 26:2413g-1,2414a-d
TITLE: The chlorination of methanetrissulfonic acid
AUTHOR(S): Backer, H. J.
SOURCE: Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1932), 51, 374-80
CODEN: RTCPB4; ISSN: 0370-7539
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 54322-33-7, Methanetrissulfonic acid (chlorination of)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB cf. C. A. 25, 75. The chlorination of CH(SO3H)3 may be carried out by heating 7.8 g. of the tri-K salt and 0.1 g. I in 60 cc. water containing 2 g.

Cl in a sealed tube at 200° for 10 hrs. After evaporating the contents of the tube and recrystg. the residue 6 times from its weight of water, tri-K

chloromethanetrissulfonate was obtained in a pure state in 70% yield; it does not contain H2O; at 25° 100 g. water dissolves 3.38 g.; crystallographic properties: monoclinic system; a:b:c = 0.8040:1:0.7659; β = 87° 52'; observed forms (.hivin.111), (010), (111), (101) and (011); angles: (010):(011) 52° 34'; (010):(111) = 61° 27'; (100):(.hivin.101) = 42° 36'; (100):(101) = 44° 33'; (010):(.hivin.111) = 60° 38'. For the preparation of the free acid and other salts the tristrychnine salt, which crystallizes without H2O, was used. The free acid (4.5 H2O) m. 160-5° but 180-2° in the presence of P2O5; at 25°, 100 g. water dissolves 254.7 g. of the anhydrous acid. Normal Li salt (8 H2O): 100 g. water dissolves 109.9 g.

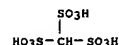
of the anhydrous salt; crystalline properties: rhombic system; a:b:c = 0.933:1:0.708;

observed forms (110), (011) and (010); angles: (110):(010) = 46° 59'; (.hivin.11): (100) = 52° 43'; (010):(011) = 54° 50'; (110):(011) = 66° 51'. The normal Na salt does not contain H2O on crystallization from a saturated hot solution but 3 H2O on evaporating a solution at room temperature;

at 25°, 100 g. water dissolves 21.8 g. of the trihydrate. Normal Rb salt (1H2O): 100 g. water dissolves at 25°, 3.34 g. of the anhydrous salt; crystalline properties: rhombic system; a:b:c = 0.9827:1:0.5437;

observed forms (101), (010), (111), (221), (100), (041), (001) and (210), sometimes (110); angles: (001):(111) = 37° 48'; (100):(110) = 45° 30'; (001):(101) = 29° 1'; (001):- (221) = 57° 20'; (001):(041) = 65° 23'; (100):(210) = 26° 12'; (101):(111) = 25° 20'. The normal Cs salt (1 H2O) consists of rhombic plates; at 25°, 100 g. water dissolves 5.49 g. of the crystallized salt; crystallographic properties: rhombic system; a:b:c = 0.9646:1:1.0845; observed forms (100), (001), (010), (111), (102), (101), (210) and (112); angles:(100):(101) = 41° 39'; (100):(210) = 25° 45'; (100):(112) = 63° 47'; (100):(111) = 53° 0';

L20 ANSWER 35 OF 37 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1932:8729 CAPLUS
DOCUMENT NUMBER: 26:8729
ORIGINAL REFERENCE NO.: 26:962g-1
TITLE: The salts of methanetrissulfonic acid
AUTHOR(S): Backer, H. J.; Terpatra, P.
SOURCE: Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1931), 50, 1069-77
CODEN: RTCPB4; ISSN: 0370-7539
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 54322-33-7, Methanetrissulfonic acid (and salts)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

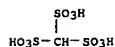


AB The normal K, Ag and TI salts of methane-trissulfonic acid have been described (cf. Backer, C. A. 25, 915); the present paper deals with other salts, which were prepared in the usual way. Methanetrissulfonic acid contains 3H2O, m. 162-162.5°; 100 g. of water at 25° dissolves 221 g. of the anhydrous acid and 510 g. of the crystallized compound

Detailed crystallographic data are given for the normal NH4 salt (contains 0.5 H2O; crystals are of the monoclinic system), the normal Li salt (4 H2O; monoclinic system), normal Na salt (3 H2O; very thin monoclinic plates), normal Rb salt (1 H2O; rhombic system, bisphenoidal class), normal Cs salt (1 H2O; monoclinic system), normal Ag salt (1 H2O; triclinic system), normal Ca salt (12 H2O; rhombic system), normal Ba salt (9 H2O; monoclinic crystals), normal La salt (6 H2O; monoclinic crystals), and normal cinchonine salt (8 H2O; rhombic, pseudotetragonal crystals).

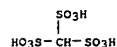
The mono-K dibrucine salt was obtained from the tri-K salt and an equivalent amount of brucine acetate; it contains 9 H2O. The K and Rb salts are isomorphous and give mixed crystals. Sometimes small anhydrous triclinic crystals of the Cs salt were obtained and a triclinic dihydrate was prepared

L20 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 1931:8598 CAPLUS
DOCUMENT NUMBER: 25:8598
ORIGINAL REFERENCE NO.: 25:915a-1
TITLE: Methanetrissulfonic acid
AUTHOR(S): Backer, H. J.; Klaassens, K. H.
SOURCE: Recueil des Travaux Chimiques des Pays-Bas et de la
Belgique (1931), 49, 1107-17
CODEN: RTCPB4; ISSN: 0370-7539
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 54322-33-7, Methanetrissulfonic acid
(and salts)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



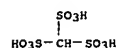
AB CH(SO₃H)₃ has already been prepared: (1) by Theilkuhl (Ann. 147, 134 (1868)) on heating Ca Me sulfate with H₂SO₄; (2) by Bagnall (J. Chemical Society 75, 278(1899)) on sulfonating Ac derivs. of aromatic amines; (3) by oxidation of HSC(SO₃H)₃ (Albrecht, Ann. 161, 139(1872); cf. Backer, C. A. 24, 76); (4) by the action of K₂SO₃ on O₂NCH(SO₃H)₂ (Rathke, Ann. 167, 219(1873)), which is formed by the action of K₂SO₃ of O₂NCCl₃; it is, however, to be recommended to isolate the O₂NCH(SO₃H)₂, which is formed as an intermediate product; (5) on heating N₂C(SO₃H)₂ with acids, water or KHSO₃ (von Pechmann, Ber. 28, 2382(1895); Fantl and Fisch, C. A. 24, 1841); (6) by sulfonation of CH₂(SO₃H)₂. All these methods, except 1, are discussed in the present paper. Method 6: On heating CH₂(SO₃H)₂ with SO₃ (2.5 mols.) during 5 hrs. at 170°, CH(SO₃H)₃ may be obtained as the K salt with 10% yield. Method 2: sulfonation of PhNHAc 0.5 mol. AcNHPh is introduced slowly into 600 g. fuming H₂SO₄ containing 35% SO₃, the mixture being heated 3 hrs. at 130° with mech. stirring: yield of the tri-K salt 57%; on carrying out the same reaction with succinamide, a small yield of the same compound was obtained. Method 3: 0.1 mol. HSC(SO₃K)₃, in 1 l. water is oxidized at room temperature by a current of Cl with the gradual addition of 80 g. KHSO₃; yield 90%. Method 4: O₂NCH(SO₃H)₂ was prepared according to Rathke (loc. cit.) by adding 82 g. O₂NCCl₃, gradually to 450 g. K₂SO₃ in 900 cc. water, heated to 75°, and keeping the temperature at 80°; yield 40% of the anhydrous di-K salt, which dissolves in water at 25° to the extent of 1.16%. The normal strychnine salt of O₂NCH(SO₃H)₂ crystallizes with 3.5 H₂O, the free acid itself with 2 H₂O while the normal Na and Tl salts crystallize without H₂O; both the latter salts are easily soluble in water. On heating the K salt with K₂SO₃ in a sealed tube at 140°, CH(SO₃K)₃ is obtained in 67% yield. Method 5: N₂C(SO₃K)₂, prepared according to von Pechmann (loc. cit.), may be converted into CH(SO₃H)₃ by the action of KHSO₃ at 60° and finally on the water bath (yield 62%), decomposing the compound with water or introducing it into dilute

L20 ANSWER 37 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 1930:16847 CAPLUS
DOCUMENT NUMBER: 24:16847
ORIGINAL REFERENCE NO.: 24:1841a-b
TITLE: Methanotrissulfonic acid
AUTHOR(S): Fantl, Paul; Fisch, Julius
SOURCE: Journal fuer Praktische Chemie (Leipzig) (1930), 124, 159-62
CODEN: JPCEAO; ISSN: 0021-8383
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 55110-91-3, Methanetrissulfonic acid, hydroxy-, tripotassium salt (preparation of)
RN 55110-91-3 CAPLUS
CN Methanetrissulfonic acid, tripotassium salt (3CI, 9CI) (CA INDEX NAME)



● 3 K

IT 54322-33-7, Methanetrissulfonic acid (salts)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB N₂C(SO₃K)₂ and KHSO₃ give CH(SO₃K)₃ and not HOC(SO₃K)₃ (cf. v. Pechmann, Ber. 28, 2374(1898)). The K, Ba and Ag salts were prepared and analyzed.

L20 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2006 ACS ON STN (Continued)
HCl, the latter reaction giving a 40% yield. On introducing the diazo compd. into concd. HCl at 0°, ClCH(SO₃H)₂ is obtained. The following salts of CH(SO₃H)₃ and the acid itself were prepd. in the usual way: The free acid with 3.5 H₂O, m. 156°; the tri-K salt, rhombic prisms with 1 H₂O; 100g. of water dissolve at 25°, 1.202 g. of the anhyd. salt and 1.261 g. of the crystd. salt. Crystallographic properties (P. TERPSTRA): rhombic system, bisphenoidic class D₂; a: b: c = 0.9977:1:1.3604. Forms: a = (100); b = (010); c = (001); p = (101); m = (110); o = (111); Q = (1.hivin.11); q = (011); s = (121); angles: a: m = 44° 56'; c:p = 52° 38'; a: " = 51° 28'; b:m = 51° 34'; c: q = 52° 36'; o: s = 19° 22'. The crystals obtained by evapn. at ordinary temp. have a larger dimension in the direction of the b-axis. The crystals show a marked piezoelectricity; the plane of the optical axes is (001); the a-axis is the sharp bisectrix; ρ<v. For Na light 2ε 83° 1'; α = 1.513; β = 1.5253; γ = 1.5270; 2V = 51° 45'. The tri-Tl salt also contains 1H₂O; crystallographic properties (P. TERPSTRA): rhombic system, bisphenoidic class: a: b: c: = 0.9971:1:1.3009; forms: m = (110); p = (101); q = (011); s = (1.hivin.11); " = (111); the crystals possess either the form s or the form ", which have never been found to occur in the same crystal. Angles: m: m = 90° 10'; p:p = 105° 4'; q:q = 104° 54'; s:s = 123° 0'; p:s = 38° 20'; s:q = 38° 29'. The plane of the optical axes is (001); the sharp bisectrix (010). By means of a prism formed by (1.hivin.11) and (1.hivin.11) the refractive index β has been detd. to be 1.739, 1.743, 1.768 for λ = 578, 546, 436, resp. The crystals are piezoelectrical. The tri-Ag salt contains 1 H₂O; the Ba salt, 9 H₂O; the latter is difficultly sol. in water, only to the extent of 0.1%. On mixing without precautions the solns. of the K salt and BaCl₂, a double salt of Ba and K is obtained, CHO₉S₃KBa₃H₂O, which, after several recrystns. from a large amount of water, gives the pure Ba salt. The Ca salt contains 12 H₂O and the La salt 6 H₂O (cf. Backer and Klaassens, C. A. 24, 4729).

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

189.99

754.24

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-27.75

-27.75

FILE 'REGISTRY' ENTERED AT 15:21:44 ON 29 AUG 2006

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2006 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 28 AUG 2006 HIGHEST RN 904961-01-9

DICTIONARY FILE UPDATES: 28 AUG 2006 HIGHEST RN 904961-01-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10535603\10535606methanetrissulphonate.str



chain nodes :

1 2 3 4 5

chain bonds :

1-4 2-4 3-4 4-5

exact bonds :

1-4 2-4 3-4 4-5

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS

L21 STRUCTURE UPLOADED

=> s l21 ful
FULL SEARCH INITIATED 15:22:00 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 99 TO ITERATE

100.0% PROCESSED 99 ITERATIONS 9 ANSWERS
SEARCH TIME: 00.00.01

L22 9 SEA SSS FUL L21

=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	166.94	921.18
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-27.75

FILE 'CAPLUS' ENTERED AT 15:22:18 ON 29 AUG 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 29 Aug 2006 VOL 145 ISS 10
FILE LAST UPDATED: 28 Aug 2006 (20060828/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

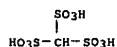
=> s l22
L23 30 L22

=> d ibib hitstr abs 1-30

L23 ANSWER 1 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:426557 CAPLUS
DOCUMENT NUMBER: 142:463900
TITLE: Acylation process for the preparation of 2,3,5-trimethylhydroquinone diacylates in the presence of methanetrissulfonic acid catalyst
INVENTOR(S): Aquino, Fabrice; Bonrath, Werner; Pace, Francesco
PATENT ASSIGNEE(S): DSM IP Assets B.V., Neth.
SOURCE: PCT Int. Appl., 10 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005044775	A1	20050519	WO 2004-EP12058	20041026
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1680392	A1	20060719	EP 2004-790843	20041026
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
PRIORITY APPLN. INFO.: EP 2003-25513 A 20031107				
WO 2004-EP12058 W 20041026				

OTHER SOURCE(S): CASREACT 142:463900
IT 54322-33-7, Methanetrissulfonic acid
RL: CAT (Catalyst use); USES (Uses)
(acylation process for preparation of 2,3,5-trimethylhydroquinone diacylates in presence of methanetrissulfonic acid catalyst)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB 2,3,5-Trimethyl-1,4-hydroquinone diacylates (e.g., 2,3,5-trimethyl-1,4-benzoguinone diacetate), useful as intermediates in the preparation of α -tocopherol (no data), are obtained in high yield and selectivity by reacting 2,3,5-trimethyl-1,4-benzoguinone with an acylating agent (e.g., acetic anhydride) in the presence of catalytic quantities of methanetrissulfonic acid.

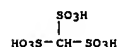
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L23 ANSWER 1 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)

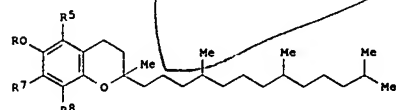
L23 ANSWER 2 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:965239 CAPLUS
DOCUMENT NUMBER: 141:395687
TITLE: Process for the manufacture of tocyl and tocopheryl acylates
INVENTOR(S): Bonrath, Werner; Haas, Alois; Hoppmann, Simone; Netscher, Thomas; Pauling, Horst
PATENT ASSIGNEE(S): DSM IP Assets B.V., Neth.
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004096790	A1	20041111	WO 2004-EP4144	20040419
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.: EP 2003-9522 A 20030428				

OTHER SOURCE(S): CASREACT 141:395687; MARPAT 141:395687
IT 54322-33-7, Methanetrissulfonic acid
RL: CAT (Catalyst use); USES (Uses)
(process for manufacture of tocyl and tocopherol acylates using perfluoroalkylsulfonyl catalysts)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



GI



AB A process for the manufacture of tocyl acylate I [R = acyl; R¹ = R² = R³ = H]

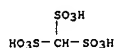
L23 ANSWER 2 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
or a tocopheryl acylate I [R = acyl; R⁵ = R⁷ = R⁸ = Me, R⁶ = H, R¹ = R² = R³ = Me, etc.] comprised reacting a corresponding tocyl or tocopherol with an acylating agent in the presence of a catalyst of the general formula HCR¹R²R³ [wherein R¹, R² and R³ each signify the sulfo group, or R¹, R² and R³ each signify a perfluoroalkylsulfonyl group whereby at least two of R¹, R² and R³ are identical such perfluoroalkyl-sulfonyl groups, or R¹ signifies the pentafluorophenyl-sulfonyl group and R² and R³ each signify an identical perfluoroalkylsulfonyl group]. The main com. form of vitamin E, being (all-rac)- α -tocopheryl acetate I [R = acetyl; R⁵ = R⁷ = R⁸ = Me], can be manufd. by acylation of (all-rac)- α -tocopherol according to this process.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L23 ANSWER 3 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 2004:823008 CAPLUS
DOCUMENT NUMBER: 141:334863
TITLE: Crosslinked polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type electrolytes for lithium secondary batteries
INVENTOR(S): Barrandon, Georges; George, Catherine; Vergelati, Carol; Giraud, Yves
PATENT ASSIGNEE(S): Rhodia Chimie, Fr.
SOURCE: Fr. Demande, 25 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2853321	A1	20041008	FR 2003-4153	20030403
FR 2853321	B1	20050506		
WO 2004090037	A1	20041021	WO 2004-FR708	20040323
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1608705	A1	20051228	EP 2004-742318	20040323
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK			
CN 1788054	A	20060614	CN 2004-80013072	20040323
PRIORITY APPLN. INFO.:			FR 2003-4153	A 20030403
			WO 2004-FR708	W 20040323

OTHER SOURCE(S): MARPAT 141:334863
IT 54322-33-7DP, Methanetrissulfonic acid, derivs., salts
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (battery electrolytes containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type electrolytes for lithium secondary batteries)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

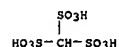


AB Crosslinked polymeric electrolytes for lithium secondary batteries consist of: (1) a first poly(hydrogen organic siloxane) with ≥ 2 Si-H bonds per mol., (2) a second polysiloxane containing ≥ 2 Si-OH bonds per mol., (3)

L23 ANSWER 4 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 2004:823007 CAPLUS
DOCUMENT NUMBER: 141:334862
TITLE: Photochemical crosslinked epoxy-polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type electrolytes for lithium secondary batteries
INVENTOR(S): Gambut, Lucile; Vergelati, Carol; Sanchez, Jean Yves;
PATENT ASSIGNEE(S): Alloin, Fannie
SOURCE: Rhodia Chimie, Fr.; Rhone Poulenc Chimie
Fr. Demande, 30 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2853320	A1	20041008	FR 2003-4150	20030403
FR 2853320	B1	20050506		
WO 2004091033	A2	20041021	WO 2004-FR707	20040323
WO 2004091033	A3	20050714		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1609205	A2	20051228	EP 2004-742317	20040323
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK			
CN 1784806	A	20060607	CN 2004-80012563	20040323
PRIORITY APPLN. INFO.:			FR 2003-4150	A 20030403
			WO 2004-FR707	W 20040323

OTHER SOURCE(S): MARPAT 141:334862
IT 54322-33-7DP, Methanetrissulfonic acid, derivs., salts
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (battery electrolytes containing; photochem. crosslinked epoxy-polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type electrolytes for lithium secondary batteries)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB Crosslinked polymeric electrolytes for lithium secondary batteries are prepared from a polyorganosiloxane grafted with polyoxyalkylene and epoxy functions, followed by radiochem. or photochem. (e.g., UV-induced)

L23 ANSWER 3 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN (Continued)
a dehydrogenation-condensation catalyst, and (4) ≥ 1 salt electrolyte. The polyoxyalkylene ether functions are derived from polyoxyethylene, polyoxypropylene, or their mono-We ethers. The dehydrogenation-condensation catalysts are typically metal complexes based on Pt, B, Rh, Pd, Sn, or Ir, preferably Karstedt (hydrosilylation) catalysts of formula IrCl(CO)(PPh₃)₂. Suitable salt electrolytes include LiClO₄, LiBF₄, LiAsF₆, CF₃SO₃Li, LiN(CF₃SO₂)₂, and LiN(C₂F₅SO₂)₂ in a non-aq. electrolyte solvent, as well as other cations (e.g., transition metal cations, selected from Mn, Fe, Co, Ni, Cu, Zn, Ca, and Ag). Addnl. ions include ammonium, amidinium, guanidinium cations, halides, ClO₄⁻, SCN⁻, BF₄⁻, NO₃⁻, AsF₆⁻, PF₆⁻, RSO₃⁻ (R = stearyl, CF₃, octyl, dodecylphenyl, and C1-6-perfluoroalkyl and -perfluoroaryl), (R₅SO₂)₂N⁻, and (R₄SO₂)(R₅SO₂)(R₆SO₂)C⁻ (R₄-6 = C1-6-perfluoroalkyl and -perfluoroaryl).

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L23 ANSWER 4 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN (Continued)
crosslinking in the presence of a photosensitizer. The crosslinked epoxy-polyoxyalkylene-polysiloxanes have the general formula R₁xR₂yR₃SiO₄(4-x-z)/2, in which R₁-3 are C1-12-alkyl, C5-10-cycloalkyl, C6-18-aryl, aralkyl, or -OR₄ (R₄ = H or C1-15-alkyl; and x + y + z = 1-3).

The product polysiloxanes (typically prepd. from Si-H bond-contg. polysiloxanes by hydrosilylation grafting with allyl-terminated polyoxyalkylenes and epoxides) are then combined with org. salts to form the battery electrolytes. Suitable salt electrolytes include LiClO₄, LiBF₄, LiAsF₆, CF₃SO₃Li, LiN(CF₃SO₂)₂, and LiN(C₂F₅SO₂)₂, other cations (e.g., transition metal cations); ammonium, amidinium, and guanidinium salts; org. sulfonates, imidodisulfonates, methanetrissulfonates, organoboron complex salts, ferrocenium salts, and other onium salts (esp. iodonium and sulfonium compds.).

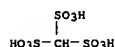
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L23 ANSWER 5 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:453200 CAPLUS
DOCUMENT NUMBER: 141:23750
TITLE: Manufacture of α -tocopherol from the reaction of trimethylhydroquinone with isophytol or phytol in the presence of methane trisulfonate
INVENTOR(S): Bonrath, Werner; Hoppmann, Simone; Haas, Alois; Netscher, Thomas; Pauling, Horst
PATENT ASSIGNEE(S): DSM IP Assets B.V., Neth.
SOURCE: PCT Int. Appl., 13 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

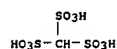
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004046127	A1	20040603	WO 2003-EP10837	20030930
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, T2, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003270295	A1	20040615	AU 2003-270295	20030930
CN 1701065	A	20051123	CN 2003-825314	20030930
US 2006020139	A1	20060126	US 2005-535603	20050519
PRIORITY APPLN. INFO.:			EP 2002-25990	A 20021121
			WO 2003-EP10837	W 20030930

OTHER SOURCE(S): CASREACT 141:23750
IT 54322-33-7, Methanetrissulfonic acid
RL: CAT (Catalyst use); USES (Uses)
(manufacture of α -tocopherol from the reaction of trimethylhydroquinone with isophytol or phytol in the presence of methane trisulfonate)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



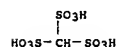
AB (all-rac)- α -tocopherol is prepared by the acid-catalyzed reaction of trimethylhydroquinone with isophytol or phytol in the presence of methane trisulfonate as the catalyst in an organic solvent.

L23 ANSWER 6 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)



● 3/2 Ba

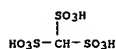
RN 187610-57-7 CAPLUS
CN Methanetrissulfonic acid, triallver(1+) salt (9CI) (CA INDEX NAME)



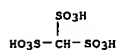
● 3 Ag(II)

AB The acidity of alkanepolysulfonic acids was measured using the correlation between the 29Si-NMR shift of the corresponding Me3Si ester of an acid and the pK_a of the acid. The alkanepolysulfonates RCH(SO₃SiMe₃)₂, R₂C(SO₃SiMe₃)₂, RC(SO₃SiMe₃)₃, and Me₃SiO₃S(CR₁₂)_nSO₃SiMe₃ (R = H, F, Cl, Br, I; R₁ = H, F; n = 1-5) were prepared and studied.

L23 ANSWER 6 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:69364 CAPLUS
DOCUMENT NUMBER: 126:211808
TITLE: Investigations on the acid-strength of alkanepolysulfonic acids
AUTHOR(S): Jueschke, Ralf; Sartori, Peter
CORPORATE SOURCE: Fachbereich 6 Anorganische Chem., Gerhard-Mercator Univ., Duisburg, D-47046, Germany
Zeitschrift fuer Naturforschung, B: Chemical Sciences (1996), 51(12), 1691-1700
CODEN: ZNBSEN; ISSN: 0932-0776
PUBLISHER: Verlag der Zeitschrift fuer Naturforschung
DOCUMENT TYPE: Journal
LANGUAGE: German
IT 54322-33-7, Methanetrissulfonic acid
RL: PRP (Properties)
(preparation of silyl alkanepolysulfonates and estimation of acidity
by correlation with 29Si-NMR shift)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



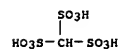
IT 55110-91-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of silyl alkanepolysulfonates and estimation of acidity
by correlation with 29Si-NMR shift)
RN 55110-91-3 CAPLUS
CN Methanetrissulfonic acid, tripotassium salt (3CI, 9CI) (CA INDEX NAME)



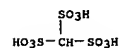
● 3 K

IT 75533-77-6P 187610-57-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of silyl alkanepolysulfonates and estimation of acidity
by correlation with 29Si-NMR shift)
RN 75533-77-6 CAPLUS
CN Methanetrissulfonic acid, barium salt (2:3) (9CI) (CA INDEX NAME)

L23 ANSWER 7 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:630311 CAPLUS
DOCUMENT NUMBER: 121:230311
TITLE: Improvement of the synthesis of the tripotassium methanetrissulfonate monohydrate
AUTHOR(S): Sartori, Peter; Jueschke, Ralf
CORPORATE SOURCE: Fachbereich 6 Anorg. Chem., Univ.-CH, Duisburg, Germany
Journal fuer Praktische Chemie/Chemiker-Zeitung (1994), 336(4), 373-4
CODEN: JPCCEM; ISSN: 0941-1216
DOCUMENT TYPE: Journal
LANGUAGE: German
OTHER SOURCE(S): CASREACT 121:230311
IT 54322-33-7, Methanetrissulfonic acid
RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)
(improvement of the synthesis of the tripotassium methanetrissulfonate monohydrate)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



IT 73224-87-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(improvement of the synthesis of the tripotassium methanetrissulfonate monohydrate)
RN 73224-87-0 CAPLUS
CN Methanetrissulfonic acid, tripotassium salt, monohydrate (9CI) (CA INDEX NAME)

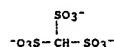


● 3 K

● H₂O

AB The Bagnall-Backer method for the preparation of the title compound [via decarboxylation of acetanilide in SO₃/H₂SO₄ to give (HO₃S)₂C₆H₃NH₂ and HC(SO₃H)₃ (I) then CaO and K₂CO₃ to give HC(SO₃K)₃·H₂O (II)] is improved by the decarboxylation of acetone in SO₃/H₂SO₄ to give I which with KOH gives 49% II.

L23 ANSWER 8 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1989:573247 CAPLUS
 DOCUMENT NUMBER: 111:173247
 TITLE: The duodecet rule. Part 2. C-H hydrogen bonding by sulfonyl compounds
 AUTHOR(S): Robinson, E. A.
 CORPORATE SOURCE: Erindale Coll., Univ. Toronto, Mississauga, ON, L5L 1C6, Can.
 SOURCE: THEOCHEM (1989), 55, 29-41
 CODEN: THEODJ; ISSN: 0166-1280
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 123177-61-7
 RL: PRP (Properties)
 (total bond orders at sulfur in)
 RN 123177-61-7 CAPLUS
 CN Methanetrissulfonic acid, ion(3-) (9CI) (CA INDEX NAME)

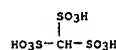


AB By combining linear relationships between log k and log r, bond order (n) and force const. (k) where k is the CS stretching force constant of a bond of length r, a correlation is established between CS bond lengths and simple valence-bond bond orders. For a variety of S(VI) species with bonds to electroneg. ligands, including Me groups, this is used to demonstrate that the total bond order at S in these species is six, consistent with a duodecet rule. Apparently, S-CH₃ groups in compds. such as CH₃SO₂F, CH₃SO₂OH, Me₂SO₂, and related species compete with other ligands for the delocalization of electron pairs into the valence shell of the central sulfur atom, in this case through hyperconjugation. This accounts for the enhanced acidities of hydrogen atoms bonded to α-carbon atoms in such compds., and their ability to form hydrogen bonds. Evidence for hydrogen bonding in CH₃SO₂F, CH₃SO₂Cl, and (CH₃)₂SO₂, and in CH₃SO₂OH (via both S-OH and S-CH₃), is discussed. The use of C-H bond lengths and stretching force const. as a possible diagnostic tool to select mols. capable of CH hydrogen bonding is also discussed.

L23 ANSWER 9 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1989:553222 CAPLUS
 DOCUMENT NUMBER: 111:153222
 TITLE: Process for the preparation of alkyl 3-alkoxypropionates
 INVENTOR(S): Jones, Glenn C.; Nottingham, William D.; Reynolds, Peter W.
 PATENT ASSIGNEE(S): Eastman Kodak Co., USA
 SOURCE: U.S., 4 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

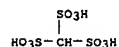
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4827021	A	19890502	US 1988-164663	19880307
CA 1326242	A1	19940118	CA 1989-591956	19890224
WO 8908636	A1	19890921	WO 1989-US763	19890227
W: AU, JP, KR				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AU 8933504	A1	19891005	AU 1989-33504	19890227
AU 609288	B2	19910426		
EP 403528	A1	19901227	EP 1989-903301	19890227
EP 403528	B1	19930210		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 03503282	T2	19910725	JP 1989-503132	19890227
JP 2738967	B2	19980408		
AT 85603	E	19930215	AT 1989-903301	19890227
KR 9700138	B1	19970104	KR 1989-72047	19891106
PRIORITY APPLN. INFO.:			US 1988-164663	A 19880307
			EP 1989-903301	A 19890227
			WO 1989-US763	A 19890227

OTHER SOURCE(S): MARPAT 111:153222
 IT 54322-33-7, Methanetrissulfonic acid
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, for addition of alkoxy methane with ketene)
 RN 54322-33-7 CAPLUS
 CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB R1OCH2CR3R4CO2R2 (I; R1, R2 = C1-8 alkyl; R3, R4 = H, alkyl, aryl), useful as solvents in the formation of coating compns., are prepared by addition of R1OCH2OR2 with R3R4C:CO in the presence of CH₂(SO₃H)₂, CH(SO₃H)₃, or mixture thereof. A mixture of 23.0 g CH₂(OMe)₂, 0.071 CH₂(SO₃H)₂, and 0.30 and CH₂:CO was stirred at 25-40° under N to give 24.9 g I (R1 = R2 = Me, R3 = R4 = H). Similarly prepared was I (R1 = R2 = Et, R3 = R4 = H).

L23 ANSWER 10 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1986:431749 CAPLUS
 DOCUMENT NUMBER: 105:31749
 TITLE: The electrochemistry of a dimeric and two monomeric cis-trioxomolybdenum(VI) complexes containing cyclic triamine ligands in protic and aprotic media: model compounds for the active site in formate dehydrogenase
 AUTHOR(S): Herrmann, Willy; Wieghardt, Karl
 CORPORATE SOURCE: Ruhr-Univ., Bochum, D-4630, Fed. Rep. Ger.
 SOURCE: Polyhedron (1986), 5(1-2), 513-20
 CODEN: PLYHDE; ISSN: 0277-5387
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 54322-33-7
 RL: PRP (Properties)
 (electrochem. reduction of molybdenum trioxotriazacyclononane or molybdenum trioxotrimethyltriazacyclononane nuclear and dinuclear complexes on mercury in)
 RN 54322-33-7 CAPLUS
 CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

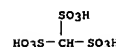


AB The electrochem. of cis-MoO₃L (I), (L = N,N',N''-trimethyl-1,4,7-triazacyclononane) or cis-MoO₃L' (II), (L' = 1,4,7-triazacyclononane) was in protic (CH₃SO₃H) and aprotic media (DMF) by cyclic voltammetry at the hanging Hg drop (HMD) electrode. I and II are quasi-reversibly reduced by a 2e-, 4H+ step in acidic solns. to give monomeric [LMo(IV)O(OH₂)₂]²⁺ and [L'Mo(OH₂)₂]²⁺, which in the case of I is further reduced to a monomeric Mo(III) species which then undergoes a reversible chemical reaction (dimerization). In contrast, reduced II undergoes chemical reactions (dimerization or trimerization of [L'Mo(OH₂)₂]²⁺ or comproportionation reactions) due to the fact that the unmetallated cyclic amine in II is sterically less demanding. I and II are redox-inactive in DMF (+1.0 to -1.7 V vs. Ag-AgCl at a Pt or a glassy C electrode). Dimeric [L₂Mo₂O₅](PF₆)₂, (III) is reversibly reduced to a Mo(V) dimer (2e-, 2H+ process) and, finally, to a Mo(III)₂ dimer (4e-, 4H+) in 0.1M CH₃SO₃H at an HMD electrode, contrasting with the behavior in aprotic medium (DMF), Pt electrode), where 2 reversible 1-electron transfer processes generating the blue, mixed-valence species Mo(VI)/V and an Mo(V)₂ dimer were observed

L23 ANSWER 11 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1985:184717 CAPLUS
 DOCUMENT NUMBER: 102:184717
 TITLE: Alkoxylation of alcohols and phenols
 INVENTOR(S): Moody, Keith
 PATENT ASSIGNEE(S): ICI Australia Ltd., Australia
 SOURCE: Pat. Specif. (Aust.), 13 pp.
 CODEN: ALXXAP
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
AU 538363	B2	19840809	AU 1981-71460	19800613
AU 8171460	A1	19811217		
PRIORITY APPLN. INFO.:			AU 1981-71460	19800613

IT 54322-33-7
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, for alkoxylation of alcs. and phenols)
 RN 54322-33-7 CAPLUS
 CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



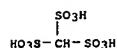
AB Alcs. and phenols were alkoxyated with alkylene oxides in the presence of catalysts consisting of organic sulfonic acids or their salts. The sulfonic acids chosen have an acid strength greater than that of methanesulfonic acid: the cations are chosen from first row transition metals, Be, Mg, Ca, B, Al, Sn, or Zr. Thus, BuOH was ethoxylated with ethylene oxide (6:1 mol ratio) at 160° in the presence of Zn methanesulfonate to give 93.8% ethylene glycol monobutyl ether and small amts. of diethylene glycol monobutyl ether (20.9:1 mol ratio). Other catalyst used were Zn benzenesulfonate or trifluoromethanesulfonate and Al methanedisulfonate.

L23 ANSWER 12 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 1983:523106 CAPLUS
 DOCUMENT NUMBER: 99:123106
 TITLE: N-phenylcarbamate ester oligomers
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JIOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58085852	A2	19830523	JP 1981-183739	19811118
JP 62008430	B4	19870223		

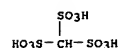
PRIORITY APPLN. INFO.: JP 1981-183739 19811118

IT 54322-33-7
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for oligomerization of phenylcarbamate esters with methylene donors)
 RN 54322-33-7 CAPLUS
 CN Methanetrilsulfonic acid (7CI, 9CI) (CA INDEX NAME)



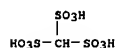
AB N-Phenylcarbamate esters are oligomerized with methylene donors in the presence of solid-supported polysulfonic acids. Thus, 10g kieselguhr and 3.5g CH₂(SO₃H)₂ (I) [503-40-2] in 10 mL H₂O was dried and baked 6 h at 200° to give catalyst containing 14% I. A mixture of the above catalyst 3, Et N-phenylcarbamate (II) 8.25, and dimethoxymethane 1g in 40 mL sulfolane was heated 1 h in an autoclave at 140° to convert 56% II to oligomers [87093-19-4] containing 73% 1,1'-methylenebis(4-ethoxycarbonylamino)benzene [10097-16-2] and 11% 1,3'-methylenebis(4-ethoxycarbonylamino)benzene [70381-86-1].

L23 ANSWER 14 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 1981:174556 CAPLUS
 DOCUMENT NUMBER: 94:174556
 TITLE: 2-Hydroxyacetophenone via Fries rearrangement and related reactions. A comparative applied study
 Hocking, Martin B.
 AUTHOR(S): Dep. Chem., Univ. Victoria, Victoria, BC, V8W 2Y2, Can.
 CORPORATE SOURCE: Journal of Chemical Technology and Biotechnology
 SOURCE: (1979-1982) (1980), 30(11), 626-41
 CODEN: JCTBDC; ISSN: 0142-0356
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 94:174556
 IT 54322-33-7
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for Fries rearrangement of Ph acetate)
 RN 54322-33-7 CAPLUS
 CN Methanetrilsulfonic acid (7CI, 9CI) (CA INDEX NAME)



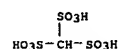
AB PhOAc was prepared directly from PhOH and AcOH in the presence of H₂SO₄; thermal rearrangement of PhOAc was studied in the presence of methanesulfonic and -trilsulfonic acids, p-MeC₆H₄SO₃H, and sulfonated cation exchange resin. Catalysts by H₂SO₄, H₂SO₄.H₂O, H₃PO₄, NaHSO₄, and CaCl₂ was also studied. The catalysts gave o- and p-HOC₆H₄Ac, with larger
 ams. of the ortho derivative at higher temps. The rates, product ratios, and yields of these processes were compared. AlCl₃, ZnCl₂, and BF₃ all gave faster reactions than the proton acids, and higher ortho-para ratios, especially with BF₃ at low temps. The results obtained with the proton acids and other compds. and with the Lewis acids were compared. The object of the studies was to provide a com. route to pyrocatechol.

L23 ANSWER 13 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 1983:504727 CAPLUS
 DOCUMENT NUMBER: 99:104727
 TITLE: Methanetrilsulfonic acid derivatives
 AUTHOR(S): Yagupol'skii, Yu. L.; Savina, T. I.
 CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
 SOURCE: Zhurnal Organicheskoi Khimii (1983), 19(1), 79-82
 CODEN: ZORKAE; ISSN: 0514-7492
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 OTHER SOURCE(S): CASREACT 99:104727
 IT 54322-33-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with sulfur tetrafluoride)
 RN 54322-33-7 CAPLUS
 CN Methanetrilsulfonic acid (7CI, 9CI) (CA INDEX NAME)

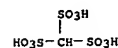


AB CH(SO₃H)₃ and SF₄ gave CH(SO₂F)₃, which with Br, iodine, or Me₃SiCl gave the corresponding RC(SO₂F)₃. CH₂(SO₂F)₂ and Ag₂O gave AgCH(SO₂F)₂, which with MeI or C₆F₅SiCl gave, resp., MeCH(SO₂F)₂ and C₆F₅SiCH(SO₂F)₂. 4-MeC₆H₄SO₃F and trifluoromorpholinosulfur gave 4-MeC₆H₄SO₂F.

L23 ANSWER 15 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
 ACCESSION NUMBER: 1981:139146 CAPLUS
 DOCUMENT NUMBER: 94:139146
 TITLE: Tris(fluorosulfonyl)methane, HC(SO₂F)₃
 Klotter, Gerhard; Pritzkow, Hans; Seppelt, Konrad
 AUTHOR(S): Anorg. Chem. Inst., Univ. Heidelberg, Heidelberg, D-6900/1, Fed. Rep. Ger.
 CORPORATE SOURCE: Angewandte Chemie (1980), 92(11), 954-5
 SOURCE: CODEN: ANCEAD; ISSN: 0044-8249
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 IT 54322-33-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with sulfur tetrafluoride)
 RN 54322-33-7 CAPLUS
 CN Methanetrilsulfonic acid (7CI, 9CI) (CA INDEX NAME)

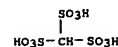


IT 75533-77-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with sulfuric acid)
 RN 75533-77-6 CAPLUS
 CN Methanetrilsulfonic acid, barium salt (2:3) (9CI) (CA INDEX NAME)



● 3/2 Ba

IT 75533-76-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with barium ion)
 RN 75533-76-5 CAPLUS
 CN Methanetrilsulfonic acid, monopotassium salt (9CI) (CA INDEX NAME)

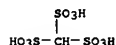


● K

AB Successive treatment of HC(SO₃K)₃ with Ba²⁺, H₂SO₄, and SF₄ gave, via HC(SO₃Ba)₂ and HC(SO₃H)₃, HC(SO₂F)₃ (I), which is a monobasic acid with strength falling between those of HSO₃F and HNO₃. Treatment of I with bases gave the salts MC(SO₂F)₃ (M = K, Rb, Cs and Ag); crystal structures

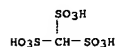
L23 ANSWER 15 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
of the K and Rb salts were detd. Treatment of AgC(SO₂F)₃ with MeI or X₂
gave, resp., MeC(SO₂F)₃ and XC(SO₂F)₃ (X = Cl, Br, I). FC(SO₂F)₃ was
prepd. by fluorinating I with XeF₂.

L23 ANSWER 16 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1981:68557 CAPLUS
DOCUMENT NUMBER: 94:68557
TITLE: New electrolytes for direct methane fuel cells
AUTHOR(S): Brummer, S. B.; Foos, J.; McHardy, J.; McVeigh, J.;
Toland, D.; Turner, M.
CORPORATE SOURCE: EIC Corp., Newton, MA, USA
SOURCE: Report (1979), DOE/ET/11321-T1, 74 pp. Avail.: NTIS
From: Energy Res. Abstr. 1980, 5(10), Abstr. No.
15977
DOCUMENT TYPE: Report
LANGUAGE: English
IT 54322-33-7
RL: USES (Uses)
(electrolytes, for direct-methane fuel cells, development and testing
of)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



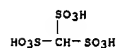
AB A program aimed at developing a fuel-cell electrolyte for the direct
oxidation of CH₄ and/or impure H fuels is described. Of interest are
di- and
tribasic methanesulfonic acids CX₂(SO₃H)₂ and CX(SO₃H)₃ where X is H, F,
or Cl. Synthetic routes to CH₂(SO₃H)₂ [503-40-2], CH(SO₃H)₃ [
54322-33-7], CCl₂(SO₃H)₂ [76371-35-2], and CCl(SO₃H)₃ [
76371-36-3] were identified and optimized. The diphenyl ester of
CF₂(SO₃H)₂ was prepared and various approaches to CF(SO₃H)₃ [76371-37-4]
were investigated. In parallel with the synthetic program, apparatus was
designed and fabricated for the testing of the electrolytes under
fuel-cell conditions. A new PTFE test cell was developed for testing
small amts. of electrolyte. Electrodes with low Pt loading were
developed
for use in electrolyte evaluation. Optimum performance with H₃PO₄ was
achieved using 1 mg Pt/cm² and 1 mg TFE 30/cm² deposited on TFE tape,
supported on a Au-plated Ta screen, and sintered. Preliminary half-cell
tests using CH₂(SO₃H)₂ and CH(SO₃H)₃ indicated that these acids are
insufficiently stable for use as fuel-cell electrolytes. However, tests
using CCl₂(SO₃H)₂ and CCl(SO₃H)₃ were encouraging, yielding H oxidation
rates
equal to or better than those using H₃PO₄. Stability tests were
conducted
by heating a sample of each acid at 130° for 30 days under N, O,
and H. At the end of the test, each sample was analyzed for
decomposition. In
no case did IR anal. indicate significant decomposition and in the case
of the
chloroacids, only a trace amount of free Cl⁻ was observed. Conductivity
measurements
showed the aqueous acids to be of the same conductivity as aqueous
H₃PO₄. The dihydrate
of CH₂(SO₃H)₂ was more conductive than CF₃SO₃H.H₂O [49789-04-0] but less
conductive than 100% H₃PO₄.

L23 ANSWER 17 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1980:145976 CAPLUS
DOCUMENT NUMBER: 92:145976
TITLE: Crystal structure, and the infrared and Raman
spectra,
of tripotassium methanetrissulfonate hydrate,
K₃[CH(SO₃)₃].H₂O
AUTHOR(S): Hall, John R.; Johnson, Robert A.; Kennard, Colin H.
L.; Smith, Graham
CORPORATE SOURCE: Dep. Chem., Univ. Queensland, Brisbane, 4067,
Australia
SOURCE: Journal of the Chemical Society, Dalton Transactions:
Inorganic Chemistry (1972-1999) (1980), (1), 149-55
CODEN: JCDTBI; ISSN: 0300-9246
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 73224-78-9
RL: PRP (Properties)
(IR and Raman spectra of aqueous)
RN 73224-78-9 CAPLUS
CN Methanetrissulfonic acid, trilithium salt (9CI) (CA INDEX NAME)



● 3 Li

IT 73224-87-0
RL: PRP (Properties)
(crystal and mol. structure, and IR and Raman spectra of)
RN 73224-87-0 CAPLUS
CN Methanetrissulfonic acid, tripotassium salt, monohydrate (9CI) (CA INDEX NAME)



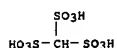
● 3 K

● H₂O

AB The crystal and mol. structure of K₃[CH(SO₃)₃].H₂O was determined by
x-ray
diffraction as an aid in the assignment of the IR and Raman spectra. The
structure was solved using direct methods and refined by full-matrix
least
squares to R 0.045 for 839 observed unique reflections. The S-C-S
angles of

L23 ANSWER 17 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
.apprx.113° indicate an expansion from tetrahedral stereochem. and
the S-C bond lengths of .apprx.1.81 Å are longer than those for
K₂[CH₂(SO₃)₂] (1.77 Å) and Ca[CH₃SO₃]₂ (1.75 Å). The IR (4000 to
50 cm⁻¹) and Raman spectra of K₃[CH(SO₃)₃].H₂O and K₃[CD(SO₃)₃].D₂O were
detd. at 77° K and interpreted in accordance with the structure,
and with the use of the spectra of anhyd. K₃[CH(SO₃)₃] and of aq. solns.
of the sol. Li salts. The SO₃ groups show their characteristic group
frequencies: ν_{asym}(C-S) 762, ν_{sym}(C-S) 820, δ_{asym}(CS₃) 170, and
δ_{asym}(CS₃) .apprx.210 cm⁻¹, resp. IR spectra of samples contg. the
isotopically dil. H₂O species confirm the presence of 2 types of H bond
per H₂O mol.

L23 ANSWER 18 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1975:139193 CAPLUS
DOCUMENT NUMBER: 82:139193
TITLE: Reactions of dipotassium diazomethanesulfonate in aqueous solution
AUTHOR(S): Young, J. Michael
CORPORATE SOURCE: Dep. Pharmacol., Univ. Cambridge, Cambridge, UK
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1974), (22), 2541-3
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 82:139193
IT 55110-91-3P
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
RN 55110-91-3 CAPLUS
CN Methanetrissulfonic acid, tripotassium salt (3CI, 9CI) (CA INDEX NAME)



● 3 K

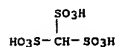
AB Decomposition of (KO3S)2CN2 (I) in H2O at 4° gave (KO3S)3CH and (KO3S)2C:NNH2, in N KOH at 70° gave (KO3S)2C:NNKSO3K, and in aqueous piperidine at 70° gave (KO3S)2CH2. I with MeOH gave (KO3S)2CHOMe.

L23 ANSWER 19 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1975:64946 CAPLUS
DOCUMENT NUMBER: 82:64946
TITLE: Solid catalysts for heterogeneous reactions
INVENTOR(S): Rona, Peter
PATENT ASSIGNEE(S): INI (TAMI) Institute for Research and Development
SOURCE: Ger. Offen., 21 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2401958	A1	19740718	DE 1974-2401958	19740116
US 3920582	A	19751118	US 1974-430804	19740104
GB 1446964	A	19760818	GB 1974-1839	19740115
JP 50046587	A2	19750425	JP 1974-7615	19740117

PRIORITY APPLN. INFO.: IL 1973-41330 A 19730117

IT 54322-33-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst preparation with, for heterogeneous catalysis or organic reactions)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

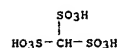


AB Catalysts for heterogeneously catalyzed reactions were prepared by impregnation of carriers with sulfonic acids. Thus, 50 g SiO2-AL2O3 pellets were treated for 30 min with 14 g benzene-1,3-disulfonic acid in H2O at 80°, dried for 6 hr at 150°, and calcined for 6 hr at 200° to give 60 g catalyst. A H2O-C2H4 mixture of mol. ratio 1:1 was passed over this catalyst at 195° to give a C2H4-C2H5OH conversion of 0.3-0.5 mole % without splitting off acid from this catalyst.

L23 ANSWER 20 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1963:468923 CAPLUS
DOCUMENT NUMBER: 59:68923
ORIGINAL REFERENCE NO.: 59:12707d-f
TITLE: Alkylation of phenols
INVENTOR(S): McConnell, Wayne V.; Davis, Herman E.
PATENT ASSIGNEE(S): Eastman Kodak Co.
SOURCE: 2 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3082258		19630319	US 1960-28557	19600512

IT 54322-33-7, Methanetrissulfonic acid
(catalyst in alkylation of phenols)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

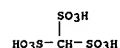


AB The preparation of 2,6-di-tert-butyl-4-methylphenol (I) from 4-methylphenol (II) and isobutylene using hydrated methanedi- or trisulfonic acid catalysis was described. I was useful as an antioxidant and stabilizer for fats and oils. Thus, 112 g. isobutylene was bubbled through a flask containing 108 g. II and 1.1 g. methanedisulfonic acid dihydrate (III) in 100 cc. benzene. In the initial stages the temperature varied from 25-40° due to the cooling effect of isobutylene refluxing in a dry ice-acetone cooled condenser. Thereafter the temperature was held at 40° for a total reaction time of 6 hrs. The supernatant liquid was decanted from the catalyst. Unreacted II (6%) and 2-tert-butyl-4-methylphenol (31% conversion) were extracted with aqueous NaOH. After removal of C6H6, I was obtained (63% conversion), m. 68-9° (50% aqueous MeOH). Under the same conditions, 5.5 g. III gave an 88% conversion to I. Only a 20% conversion resulted from use of 1,2-ethanedithiolonic acid. Benzenedisulfonic acid caused polymerization of isobutylene. When p-toluenesulfonic acid or H2SO4 was used in concentration of 5% based on the weight of II the product had poorer color and odor. White, odorless I could also be prepared in 84 and 80% conversions, resp., using 2.2 g. III and no solvent or using 1% by weight methanetrissulfonic acid trihydrate.

L23 ANSWER 21 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1963:14557 CAPLUS
DOCUMENT NUMBER: 58:14557
ORIGINAL REFERENCE NO.: 58:2371g-h
TITLE: Esterification catalysts
INVENTOR(S): Touey, George P.; Goins, Rex H.
PATENT ASSIGNEE(S): Eastman Kodak Co.
SOURCE: 3 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

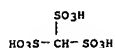
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3053884		19620911	US 1959-845336	19591009

IT 54322-33-7, Methanetrissulfonic acid
(as catalyst for esterification)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB CH2(SO3H)2 and CH(SO3H)3 are superior catalysts for preparing esters by treating saturated aliphatic mono- and polyhydroxy acids with phenyl dicarboxylic acids or saturated aliphatic carboxylic acids and their anhydrides. A lower concentration of catalyst is required and the ester produced is nearly colorless and is heat stable. Two moles phthalic anhydride and five moles BuOH were refluxed 7 hrs. in the presence of various acid catalysts. The catalyst used, the catalyst concentration based on the phthalic anhydride, and the percent phthalic acid in the product are: CH2(SO3H)2, 0.1, 0.02; CH(SO3H)3, 0.1, 0.03; H2SO4, 0.1, 0.35; MeSO3H, 0.2, 1.6; MeC6H4SO3H, 1.0, 2.0; (CH2SO3H)2, 0.2, 0.85. Data are given which show the superiority of these two catalyst for the esterification of n-octyl alc. with adipic acid and glycerol with 2-ethylhexanoic acid.

L23 ANSWER 22 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1953:70596 CAPLUS
 DOCUMENT NUMBER: 47:70596
 ORIGINAL REFERENCE NO.: 47:11919f-1
 TITLE: Acid-base equilibria in glacial acetic acid
 AUTHOR(S): Smith, Thor L.; Elliott, John H.
 CORPORATE SOURCE: Hercules Powder Co., Wilmington, DE
 SOURCE: Journal of the American Chemical Society (1953), 75, 3566-71
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 IT 54322-33-7, Methanetrissulfonic acid (ionization in AcOH)
 RN 54322-33-7 CAPLUS
 CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

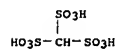


AB Values of H_0 for dilute solns. (5×10^{-4} to 5×10^{-3} M) of 11 strong acids in AcOH containing 0.12% water were measured by use of indicators α -naphtholbenzein (I) and o-nitroaniline. $H_0 = -\log(BH^+)/[B] + pK_a$, where (BH^+) and (B) are the concns. of the acidic and basic forms of an indicator, and pK_a is the thermodynamic dissociation constant for the conjugate acid of the indicator. The pK_a for I was evaluated as 0.53. The order of increasing acid strength at equal molarities is: HCl, methanesulfonic, sulfuric, carboxymethanesulfonic, chloromethanesulfonic, chlorocarbonylmethanesulfonic, HBr, perchloric, methanedisulfonic, chloromethanedisulfonic, and methanetrissulfonic acids. H_0 values for anhydrous solns. of 4 monobasic acids at 5×10^{-3} M were measured, and from the increased acidity found, equilibrium consts. for the reaction of the acids with water were calculated. H₂SO₄ was found to be monobasic. Dissociation consts., K_c , of HCl, HBr, HClO₄, and H₂SO₄ in AcOH (calculated from conductivity data of Kolthoff and Willman (C.A. 28, 3644.1)) are 5.1×10^{-10} , 1.9×10^{-7} , 9×10^{-7} , and 7.4×10^{-9} , resp. The fact that values of ΔpK_c from conductivity and from H_0 data are in reasonable agreement shows that equilibrium in AcOH involve, primarily, undissocd. species.

L23 ANSWER 24 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1949:27346 CAPLUS
 DOCUMENT NUMBER: 43:27346
 ORIGINAL REFERENCE NO.: 43:5035h-1
 TITLE: Reaction of acetylene and acetic acid. Societe des usines chimiques Rhone-Poulenc
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 867066		19410926	FR	19400224

IT 54322-33-7, Methanetrissulfonic acid (catalyst of HgO, HgSO₄ and, in C₂H₂ reaction with AcOH)
 RN 54322-33-7 CAPLUS
 CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

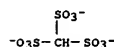


AB With a mixture of sulfonic acids containing CH-(SO₃H)₃ 36, HgSO₄ 21, and HgO 14 as catalyst, AcOH 5600 g. and C₂H₂ give CH₂CHOAc or MeCH(OAc)₂. The sulfonic acid mixture is prepared by adding 63% H₂SO₄ 1070 to Ac₂O 400 g. slowly so that the temperature does not rise above 115°, letting stand 3 hrs. at 120°, adding glacial AcOH 500 g. with the temperature at 120° another 3 hrs., and then more glacial AcOH 3000 g., with stirring 0.5 hr. The mixture contains 15% CH (SO₃H)₃.

L23 ANSWER 23 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1950:28491 CAPLUS
 DOCUMENT NUMBER: 44:28491
 ORIGINAL REFERENCE NO.: 44:5552b-d
 TITLE: Aluminum methionate
 INVENTOR(S): Christian, John E.; Jenkins, Glenn L.
 PATENT ASSIGNEE(S): Purdue Research Foundation
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2504107		19500418	US 1946-701091	19461004

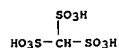
IT 855840-41-4, Methanetrissulfonic acid, aluminum salt (preparation of)
 RN 855840-41-4 CAPLUS
 CN Methanetrissulfonic acid, aluminum salt (5CI) (CA INDEX NAME)



● Al³⁺

AB Certain Al alkyl sulfonates are effective as antiperspirants, e.g. Al methionate (I), Al ethanedisulfonate, Al methanetrissulfonate, Al methanesulfonate, Al sulfoacetate, Al o-sulfobenzoate. General requirements are: the Al ion or its equivalent; one or more sulfo groups; an alkyl group. The more sulfo groups, the greater is the astringency. I is prepared by adding a solution of Al₂(SO₄)₃ to a solution of Ca methionate in water, digesting the mixture for 10 min., and filtering it. The solution of I is concentrated, and EtOH is added until I crystallizes out. I is hygroscopic, soluble in water, does not crystallize out of astringent creams. The other Al salts are prepared by treating the respective Ba compds. with Al₂(SO₄)₃ solution. These antiperspirants are harmless to skin and fabrics.

L23 ANSWER 25 OF 30 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1947:11308 CAPLUS
 DOCUMENT NUMBER: 41:11308
 ORIGINAL REFERENCE NO.: 41:2303e-g
 TITLE: Diameter changes of gelatinized coacervate drops of the complex coacervate gelatin-gum arabic, resulting from a change in pH of, or from the addition of neutral salts to, the surrounding medium. I
 AUTHOR(S): de Jong, H. G. Bungenberg; Landsmeer, J. M. F.
 CORPORATE SOURCE: Univ., Leiden
 SOURCE: Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1946), 65, 606-13
 CODEN: RTCPB4; ISSN: 0370-7539
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 55110-91-3, Methanetrissulfonic acid, tripotassium salt (effect on diameter changes of coacervate drops of gelatin-gum arabic)
 RN 55110-91-3 CAPLUS
 CN Methanetrissulfonic acid, tripotassium salt (3CI, 9CI) (CA INDEX NAME)

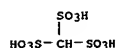


● 3 K

AB Diameter changes of coacervate drops (100-200 μ) reached equilibrium quickly (5-10 min.) in media of a given pH or salt concentration. The changes were followed microscopically at salt concns. low enough (10-40 milliequiv. per l.) to allow reversibility in the swelling and shrinking. The diameter is a min. at the pH (3.7) where the H₂O content is a min. Reversible swelling due to addition of a salt (KCl, CaCl₂, LaCl₃, K₂SO₄, or K₃CH(SO₃)₃) is least for the 1-1 valence type and increases as the salt deviates from this valence type (double valence rule).

L23 ANSWER 26 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 1944:16250 CAPLUS
DOCUMENT NUMBER: 38:16250
ORIGINAL REFERENCE NO.: 38:2347f-g
TITLE: Reaction of oleum with AcOH or Ac2O
INVENTOR(S): Cockerille, Frank O.
PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

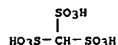
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	US 2333701		19431109	US 1940-365947	19401116
IT	54322-33-7, Methanetrissulfonic acid (preparation of)				
RN	54322-33-7 CAPLUS				
CN	Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)				



AB Methanetrissulfonic acid is prepared by a process involving adding HOAc or Ac2O to oleum, in a proportion of 4 to 7 parts of oleum to each part of the HOAc or Ac2O, the temperature being allowed to rise gradually to 65-85° during the addition of 50-75%, and not above 90° during the addition of the remainder, of the Ac2O or HOAc, and completing the reaction by holding the mixture at 90-100°.

L23 ANSWER 27 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN (Continued)
(010):(111) = 54° 5'; (001):(111) = 57° 30'; (001):- (102) = 29° 25'; (010):(.hivin.110) = 43° 50'; plane of the optical axes (100); the sharp bisectrix is (010); $\rho > \nu$; the crystals are optically negative. The normal Li salt is anhyd. Normal Ba salt (9H2O); at 25°, 100 g. water dissolves 0.845 g. anhyd. salt; crystallographic properties: rhombic system; a:b:c = 0.834:1:0.564; observed forms (212), (010), (110), (111) and (120); angles:(010):(110) = 50° 11'; (010):(111) = 64° 57'; (010):(212) = 76° 47'; (010):(120) = 31° 30'; plane of the optical axes (010). Normal NH4 salt, anhyd.; crystallographic properties: rhombic system; a:b:c = 0.9573:1:1.7022; observed forms (001), (011), (101), (110) and (211); angles:(001):- (011) = 59° 34'; (100):(101) = 29° 21'; (100):(110) = 43° 44'; (100):(211) = 29° 16'. PCs with the free acid does not give the trisulfonyl chloride, SO2 being evolved; therefore, derivs. could not be prepd.

L23 ANSWER 27 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 1932:23284 CAPLUS
DOCUMENT NUMBER: 26:23284
ORIGINAL REFERENCE NO.: 26:2413g-i,2414a-d
TITLE: The chlorination of methanetrissulfonic acid
AUTHOR(S): Backer, H. J.
SOURCE: Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1932), 51, 374-80
CODEN: RTCPB4; ISSN: 0370-7539
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 54322-33-7, Methanetrissulfonic acid
(chlorination of)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)



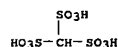
AB cf. C. A. 25, 75. The chlorination of CH(SO3H)3 may be carried out by heating 7.8 g. of the tri-K salt and 0.1 g. I in 60 cc. water containing 2 g.

Cl in a sealed tube at 200° for 10 hrs. After evaporating the contents of the tube and recrystg. the residue 6 times from its weight of water, tri-K

chloromethanetrissulfonate was obtained in a pure state in 70% yield; it does not contain H2O; at 25° 100 g. water dissolves 3.38 g.; crystallographic properties: monoclinic system; a:b:c = 0.8040:1:0.7659; β = 87° 52'; observed forms (.hivin.111), (010), (111), (101) and (011); angles: (010):(011) 52° 34'; (010):(111) = 61° 27'; (100):(.hivin.101) = 42° 36'; (100):(101) = 44° 33'; (010):(.hivin.111) = 60° 38'. For the preparation of the free acid and other salts the trisulfonyl salt, which crystallizes without H2O, was used. The free acid (4.5 H2O) m. 160-5° but 180-2° in the presence of P2O5; at 25°, 100 g. water dissolves 254.7 g. of the anhydrous acid. Normal Li salt (8 H2O): 100 g. water dissolves 109.9 g.

of the anhydrous salt; crystalline properties: rhombic system; a:b:c = 0.933:1:0.708; observed forms (110), (011) and (010); angles: (110):(010) = 46° 59'; (.hivin.11): (100) = 52° 43'; (010):(011) = 54° 50'; (110):(011) = 66° 51'. The normal Na salt does not contain H2O on crystallization from a saturated hot solution but 3 H2O on evaporating a solution at room temperature; at 25°, 100 g. water dissolves 21.8 g. of the trihydrate. Normal Rb salt (1H2O): 100 g. water dissolves at 25°, 3.34 g. of the anhydrous salt; crystalline properties: rhombic system; a:b:c = 0.9827:1:0.5437; observed forms (101), (010), (111), (221), (100), (041), (001) and (210), sometimes (110); angles: (001):(111) = 37° 48'; (100):(110) = 45° 30'; (001):(101) = 29° 1'; (001):- (221) = 57° 20'; (001):(041) = 65° 23'; (100):(210) = 26° 12'; (101):(111) = 25° 20'. The normal Cs salt (1 H2O) consists of rhombic plates; at 25°, 100 g. water dissolves 5.49 g. of the crystallized salt; crystallographic properties: rhombic system; a:b:c = 0.9646:1:1.0845; observed forms (100), (001), (010), (111), (102), (101), (210) and (112); angles:(100):(101) = 41° 39'; (100):(210) = 25° 45'; (100):(112) = 63° 47'; (100):(111) = 53° 0';

L23 ANSWER 28 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 1932:8729 CAPLUS
DOCUMENT NUMBER: 26:8729
ORIGINAL REFERENCE NO.: 26:962g-i
TITLE: The salts of methanetrissulfonic acid
AUTHOR(S): Backer, H. J.; Terpstra, P.
SOURCE: Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1931), 50, 1069-77
CODEN: RTCPB4; ISSN: 0370-7539
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 54322-33-7, Methanetrissulfonic acid
(and salts)
RN 54322-33-7 CAPLUS
CN Methanetrissulfonic acid (7CI, 9CI) (CA INDEX NAME)

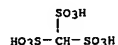


AB The normal K, Ag and Tl salts of methane-trissulfonic acid have been described (cf. Backer, C. A. 25, 915); the present paper deals with other salts, which were prepared in the usual way. Methanetrissulfonic acid contains 3H2O, m. 162-162.5°; 100 g. of water at 25° dissolves 221 g. of the anhydrous acid and 510 g. of the crystallized compound

Detailed crystallographic data are given for the normal NH4 salt (contains 0.5 H2O; crystals are of the monoclinic system), the normal Li salt (4 H2O; monoclinic system), normal Na salt (3 H2O; very thin monoclinic plates), normal Rb salt (1 H2O; rhombic system, bisphenoidal class), normal Cs salt (1 H2O; monoclinic system), normal Ag salt (1 H2O; triclinic system), normal Ca salt (12 H2O; rhombic system), normal Ba salt

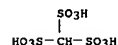
(9 H2O; monoclinic crystals), normal La salt (6 H2O; monoclinic crystals), and normal cinchonine salt (8 H2O; rhombic, pseudotetragonal crystals). The mono-K dibrucine salt was obtained from the tri-K salt and an equivalent amount of brucine acetate; it contains 9 H2O. The K and Rb salts are isomorphous and give mixed crystals. Sometimes small anhydrous triclinic crystals of the Cs salt were obtained and a triclinic dihydrate was prepared

L23 ANSWER 29 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 1931:8598 CAPLUS
DOCUMENT NUMBER: 25:8598
ORIGINAL REFERENCE NO.: 25:915a-i
TITLE: Methanetrisulfonic acid
AUTHOR(S): Backer, H. J.; Klaassens, K. H.
SOURCE: Recueil des Travaux Chimiques des Pays-Bas et de la
Belgique (1931), 49, 1107-17
CODEN: RTCPB4; ISSN: 0370-7539
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 54322-33-7, Methanetrisulfonic acid
(and salts)
RN 54322-33-7 CAPLUS
CN Methanetrisulfonic acid (7CI, 9CI) (CA INDEX NAME)



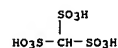
AB CH(SO₃H)₃ has already been prepared: (1) by Theilkuhl (Ann. 147, 134 (1868)) on heating Ca Me sulfate with H₂S₂O₇; (2) by Bagnall (J. Chemical Society 75, 278(1899)) on sulfonating Ac derive. of aromatic amines; (3) by oxidation of HSC(SO₃H)₃ (Albrecht, Ann. 161, 139(1872); cf. Backer, C. A. 24, 76); (4) by the action of K₂SO₃ on O₂NCH(SO₃H)₂ (Rathke, Ann. 167, 219(1873)), which is formed by the action of K₂SO₃ of O₂NCCl₃; it is, however, to be recommended to isolate the O₂NCH(SO₃H)₂, which is formed as an intermediate product; (5) on heating N₂C(SO₃H)₂ with acids, water or KHSO₃ (von Pechmann, Ber. 28, 2382(1895); Pantl and Fisch, C. A. 24, 1841); (6) by sulfonation of CH₂(SO₃H)₂. All these methods, except 1, are discussed in the present paper. Method 6: On heating CH₂(SO₃H)₂ with SO₃ (2.5 mols.) during 5 hrs. at 170°, CH(SO₃H)₃ may be obtained as the K salt with 10% yield. Method 2: sulfonation of PANHAC 0.5 mol. ACNHPh is introduced slowly into 600 g. fuming H₂SO₄ containing 35% SO₃, the mixture being heated 3 hrs. at 130° with mech. stirring; yield of the tri-K salt 57%; on carrying out the same reaction with succinanilide, a small yield of the same compound was obtained. Method 3: 0.1 mol. HSC(SO₃K)₃, in 1 l. water is oxidized at room temperature by a current of Cl with the gradual addition of 80 g. KNO₃; yield 90%. Method 4: O₂NCH(SO₃H)₂ was prepared according to Rathke (loc. cit.) by adding 82 g. O₂NCCl₃, gradually to 450 g. K₂SO₃ in 900 cc. water, heated to 75°, and keeping the temperature at 80°; yield 40% of the anhydrous di-K salt, which dissolves in water at 25° to the extent of 1.16%. The normal strychnine salt of O₂NCH(SO₃H)₂ crystallizes with 3.5 H₂O, the free acid itself with 2 H₂O while the normal Na and Tl salts crystallize without H₂O; both the latter salts are easily soluble in water. On heating the K salt with K₂SO₃ in a sealed tube at 140°, CH(SO₃K)₃ is obtained in 67% yield. Method 5: N₂C(SO₃K)₂, prepared according to von Pechmann (loc. cit.), may be converted into CH(SO₃H)₃ by the action of KHSO₃ at 60° and finally on the water bath (yield 62%), decomposing the compound with water or introducing it into dilute

L23 ANSWER 30 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 1930:16847 CAPLUS
DOCUMENT NUMBER: 24:16847
ORIGINAL REFERENCE NO.: 24:1841a-b
TITLE: Methanetrisulfonic acid
AUTHOR(S): Pantl, Paul; Fisch, Julius
SOURCE: Journal fuer Praktische Chemie (Leipzig) (1930), 124, 159-62
CODEN: JPCEAO; ISSN: 0021-8383
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 55110-91-3, Methanetrisulfonic acid, hydroxy-, tripotassium salt (preparation of)
RN 55110-91-3 CAPLUS
CN Methanetrisulfonic acid, tripotassium salt (3CI, 9CI) (CA INDEX NAME)



● 3 K

IT 54322-33-7, Methanetrisulfonic acid
(salts)
RN 54322-33-7 CAPLUS
CN Methanetrisulfonic acid (7CI, 9CI) (CA INDEX NAME)



AB N₂C(SO₃K)₂ and KHSO₃ give CH(SO₃K)₃ and not HOC(SO₃K)₃ (cf. v. Pechmann, Ber. 28, 2374(1898)). The K, Ba and Ag salts were prepared and analyzed.

L23 ANSWER 29 OF 30 CAPLUS COPYRIGHT 2006 ACS ON STN (Continued)
HCl, the latter reaction giving a 40% yield. On introducing the diazo compd. into concd. HCl at 0°, ClCH(SO₃H)₂ is obtained. The following salts of CH(SO₃H)₃ and the acid itself were prepd. in the usual way: The free acid with 3.5 H₂O, m. 156°; the tri-K salt, rhombic prisms with 1 H₂O; 100g. of water dissolve at 25°, 1.202 g. of the anhyd. salt and 1.261 g. of the crystd. salt. Crystallographic properties (P. TERPSTRA): rhombic system, bisphenoidic class D₂; a: b: c = 0.9977:1:1.3604. Forms: a = (100); b = (010); c = (001); p = (101); m = (110); o = (111); Q = (1.hivin.11); q = (011); s = (121); angles: a = m = 44° 56'; c:p = 52° 38'; a: " = 51° 28'; b:w = 51° 34'; c:q = 52° 36'; o: s = 19° 22'. The crystals obtained by evapn. at ordinary temp. have a larger dimension in the direction of the b-axis. The crystals show a marked piezoelectricity: the plane of the optical axes is (001); the a-axis is the sharp bisectrix; ρ<v. For Na light 2n = 83° 1'; α = 1.513; β = 1.5253; γ = 1.5270; 2V = 51° 45'. The tri-Tl salt also contains 1H₂O; crystallographic properties (P. TERPSTRA): rhombic system, bisphenoidic class; a: b: c = 0.9971:1:1.3009; forms: m = (110); p = (101); q = (011); s = (1.hivin.11); " = (111); the crystals possess either the form w or the form ", which have never been found to occur in the same crystal. Angles: m: m = 90° 10'; p:p = 105° 4'; q:q = 104° 54'; m:w = 123° 0'; p:w = 38° 20'; w:q = 38° 29'. The plane of the optical axes is (001); the sharp bisectrix (010). By means of a prism formed by (1.hivin.11) and (1.hivin.11) the refractive index β has been detd. to be 1.739, 1.743, 1.768 for λ = 578, 546, 436, resp. The crystals are piezoelectrical. The tri-Ag salt contains 1 H₂O; the Ba salt, 9 H₂O; the latter is difficultly sol. in water, only to the extent of 0.1%. On mixing without precautions the solns. of the K salt and BaCl₂, a double salt of Ba and K is obtained, CHO₉S₃KBa₃H₂O, which, after several recrystns. from a large amount of water, gives the pure Ba salt. The Ca salt contains 12 H₂O and the La salt 6 H₂O (cf. Backer and Klaassens, C. A. 24, 4729).

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

153.76

1074.94

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-22.50

-50.25

FILE 'REGISTRY' ENTERED AT 15:23:03 ON 29 AUG 2006

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2006 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 28 AUG 2006 HIGHEST RN 904961-01-9

DICTIONARY FILE UPDATES: 28 AUG 2006 HIGHEST RN 904961-01-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

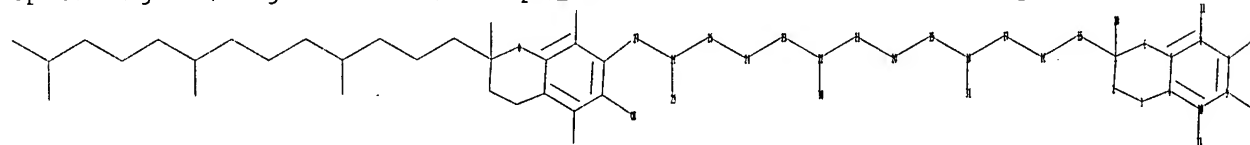
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10535603\10535606tocopherol.str



chain nodes :

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

ring nodes :

1 2 3 4 5 6 7 8 9 10

chain bonds :

1-15 1-28 7-11 8-12 9-14 10-13 15-16 16-17 17-18 18-19 18-31 19-20

20-21 21-22 22-23 22-30 23-24 24-25 25-26 26-27 26-29

ring bonds :

1-6 1-2 2-3 3-4 4-5 4-10 5-6 5-7 7-8 8-9 9-10

exact/norm bonds :

1-6 1-2 2-3 3-4 5-6 9-14

exact bonds :

1-15 1-28 7-11 8-12 10-13 15-16 16-17 17-18 18-19 18-31 19-20 20-21
21-22 22-23 22-30 23-24 24-25 25-26 26-27 26-29
normalized bonds :
4-5 4-10 5-7 7-8 8-9 9-10

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS
19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS

L24 STRUCTURE UPLOADED

=> s l24 ful

FULL SEARCH INITIATED 15:23:41 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 3047 TO ITERATE

100.0% PROCESSED 3047 ITERATIONS 446 ANSWERS
SEARCH TIME: 00.00.01

L25 446 SEA SSS FUL L24

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	166.94	1241.88
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-50.25

FILE 'CAPLUS' ENTERED AT 15:23:44 ON 29 AUG 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 29 Aug 2006 VOL 145 ISS 10
FILE LAST UPDATED: 28 Aug 2006 (20060828/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

=> s l25

L26 17222 L25

=> s l26 and l21

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...

Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 15:23:59 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 6 TO ITERATE

100.0% PROCESSED 6 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 6 TO 266

PROJECTED ANSWERS: 0 TO 0

L27 0 SEA SSS SAM L21

L28 0 L27

L29 0 L26 AND L28

=> s l21 and l19

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...

Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 15:24:09 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 6 TO ITERATE

100.0% PROCESSED 6 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 6 TO 266

PROJECTED ANSWERS: 0 TO 0

L30 0 SEA SSS SAM L21

L31 0 L30

37 L19

L32 0 L31 AND L19

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.46

1244.14

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-50.25

STN INTERNATIONAL LOGOFF AT 15:24:16 ON 29 AUG 2006